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Editorial Notes

SINCE our last number appeared Londoners have been queuing in thousands to gaze at the foundation-walls of a Roman temple found in the heart of the city. The site was only open to the public for a few hours at the end of the day, before the walls were removed and set up again on an adjacent site; but during that short time it was seen by about 30,000 people each day, everyone of whom had been willing to stand for quite a long time in a queue. It is easy to dismiss the whole thing as a Nine Days' Wonder created by a press stunt; but it should be remembered that the whole affair was started by a leading article in the *Times*, strongly criticizing the impending destruction of the remains, which but for that leader would have taken place. Thanks to it public opinion was aroused, an extension of time was granted, some most important sculptures were found, and the remains were removed instead of being annihilated. We all owe a deep debt of gratitude to the *Times* for giving that lead.

The cost of preserving the temple *in situ* would, we are told, have been half a million pounds. We were also told that the matter had come before the Cabinet and not unnaturally it was decided to be impossible. When it was thought that the remains would be destroyed some archaeologists claimed that it would not really matter because all the essential facts would be recorded in the technical report, to be published at some date in the probably remote future. Flinders Petrie said the same thing about the destruction of the upper layers of a stratified city-mound. When destruction is inevitable and reconstitution elsewhere impossible, then we must be content with the fullest possible record (which, as Mr Eric Birley pointed out in the *Times*, should include a model); here the facts have shown that destruction was not inevitable and that a defeatist attitude was therefore unjustified. Public opinion, aided by the press, saved the situation, and saved also several first-rate marble sculptures which but for its intervention would have been churned into fragments by bulldozers.

What is the upshot of it all? First, that public opinion is on our side. To keep it on our side we must react with sympathy and imagination. People like to see the actual remains themselves, if possible *in situ*, if not then reconstituted somewhere else. This desire is a healthy one, not mere sentimentality; 'seeing is believing', and for all the thousands who queued and viewed that temple, Londinium will in future be not just a

bookish abstraction but a concrete, once-living thing they have seen and walked over. We admit to being similarly impressed ourselves by recent visits to Cnossos and Pompeii which brought those places to life in a way that no reading of archaeological reports could do or had done. How much more so must it be with those to whom archaeology is not a whole-time preoccupation ? And let it not be forgotten that, as the ultimate paymasters, they are entitled to call the tune. The Government is necessarily one move behind public opinion, and affairs like this of the Mithras Temple should strengthen our hands when public money is demanded for archaeological purposes.

Television tells the same story, as readers of Dr Glyn Daniel's article in this number will learn. The archaeological programmes have been extraordinarily popular.

Another lesson of the Mithras affair is that cooperation between the world of industry and business on the one hand and of archaeology on the other is most profitable for the latter—and if publicity is welcomed, for the former as well. A good example is the recent excavation of a Roman barrow at Holborough in Kent, where the Company concerned did far more than was expected to help the archaeologists. Such cooperation is common also in the world of scholarship ; big businesses have financed the publication of books that otherwise could not have appeared. Amongst those recently reviewed in ANTIQUITY there are at least four examples of this form of subvention, each involving large sums of money.

We print elsewhere an article by Mr Seton Lloyd describing how the city mound of Beycesultan in Anatolia came to be found and chosen for a large scale effort. It is a good example of field archaeology at its best. By way of commentary, and because the substantive reports are, naturally, not yet available, we print here (by kind permission of the Editor of the *Times* and of the writer) a letter from Professor V. Gordon Childe, printed in the *Times* of 4 August last :—

' Unexpectedly exciting prospects for prehistory, as well as for ancient history, have been opened up by the excavations at Beycesultan, described by Mr Seton Lloyd in your columns. The surprise has been, of course, the revelation of such highly original cultures in a corner of Asia Minor between Cilicia, the Halys basin, and north-western Anatolia. In these three regions the culture sequence is familiar, thanks to extensive excavations at Mersin and Tarsus, at Alaca Hüyük, Alişar, and Boğazköy, and at Troy respectively. From 1500 B.C. the newly discovered sequence proves to diverge unexpectedly from those revealed at the foregoing sites. Was it equally aberrant in the third millennium ? Shortly after 2000 B.C. the comparatively uniform cultural development on the Plateau and in the Troad was abruptly interrupted ; about 1800 B.C. Troy VI was founded by a new people bringing horses and novel traditions in potting and probably in burial rites (cremation), while incidentally the same style of pottery appears equally abruptly all over mainland Greece ; by 1700 B.C. the " Indo-European " Hittites (whose presence may be deduced a couple of centuries earlier from written records) are archaeologically attested at Boğazköy by cremation burials accompanied by horses' bones. The origin of the innovators in each case remains an enigma. Continued excavations at Beycesultan must contribute to its elucidation even if they do not directly reveal the source of the innovations '.

Our readers will remember that four years ago ANTIQUITY published an account of Professor Braidwood's excavations at Jarmo in Iraq (XXIV, 1950, 189–95). Jarmo is a key site because it is the oldest known permanent habitation-site of food producers, and therefore of crucial importance as a landmark in human history. For that reason we reprint below an account recently circulated of the aims of this year's expedition, which are admirably comprehensive. Noteworthy is the emphasis on Radiocarbon dating, and on the study of animal-bones on the spot by a specialist. We still have much to learn about the domestication of animals, and this is the way to learn it.

' A unique team of archaeologists and other scientists are combining this winter in a joint investigation of the dawn of civilization in the Middle East. Robert J. Braidwood, professor of Old World archaeology in the University of Chicago's Oriental Institute and professor of anthropology is general director of the expedition, the Iraq-Jarmo project. Aimed at correlating all discoverable facts about men, plants, and animals in an environment of approximately 7000 years ago, the expedition will concentrate on that revolutionary period in history when men turned from food-gathering-cave-dwelling savagery to agriculture and the settled village-farming community. New techniques of radiocarbon dating (first developed by the University of Chicago's Willard F. Libby) will be used in the attempt to establish an accurate time scale for the period.

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' Members of the staff of the 1954–1955 expedition, in addition to Braidwood, are Bruce Howe, of Harvard's Peabody Museum, who has charge of the affiliated operations of the Baghdad School of the American Schools of Oriental Research : Howe has been appointed Baghdad professor of the school for the coming year. Professor H. E. Wright, Jr., of the University of Minnesota's Department of Geology, with the aid of a Guggenheim fellowship, will continue studying the physiography and ancient climates of the region. In addition, the effort to reconstruct the ancient environments and ecology when the first village farming communities appeared has been expanded by a generous grant of the National Science Foundation to the University of Chicago's Department of Anthropology. As a result, Professor Frederick R. Matson of the Pennsylvania State University will be able to apply new techniques of radiocarbon dating to charcoal obtained from varying strata of ancient hearths. Also on this Foundation's grant is Professor Charles A. Reed of the University of Illinois who will study animal remains to discover the domesticated and wild animals associated with the ancient villages. It is anticipated that several other scientists, including specialists in plant lore, will be able to join the expedition in the spring of 1955.

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' The expedition was to begin by surveying the drainage basin of the Greater Zab river, which lies east of Mosul in Iraq. During the winter months, the expedition will make a tour of many of the westerly archaeological sites in Mesopotamian Turkey, Syria, Lebanon, and Jordan. Carbon14 samples will be collected from those westerly sites which range from the end of the food gathering stage to that of the established village-farming communities. An effort will be made to reappraise the past archaeological and environmental evidence concerning these areas. In the spring of 1955, the project will attempt to complete its excavations at Jarmo, Palegawra, and possibly one or two other surface sites in Iraq's Chemchemal Valley.

The Iraq-Jarmo project is the prehistoric aspect of the Oriental Institute's present programme in Western Asia. Heretofore, the approach to this period of revolutionary transition has been haphazard rather than well-rounded. The archaeologist—primarily trained for the interpretation of cultural rather than environmental evidence—has been forced to attempt his own reconstruction of the history of climate and of the physical and natural surroundings. By pooling the efforts of both archaeologists and natural scientists who are expert in their fields, the project hopes to arrive at a new and broader grasp of the subtle interrelationships between man's culture and his natural environment at one of the most critical points in history '.

A colleague writes, à propos of our last Editorial Notes :—' I admire your restraint in dealing with French museums ; . . . There is a collection of Merovingian, Carlovingian, or what not, inscriptions at Vence (Alpes Maritimes) which I have badly wanted to see ; but the building has been " appropriated " for a telephone exchange, and so they are inaccessible '. Another writes :—' In France I had the opportunity of visiting some archaeological museums, and of verifying your statements . . . I wonder how many answers to problems of West European prehistory could be obtained by an archaeological expedition equipped with dusters and vacuum cleaners instead of spades !' He adds that the Grand Pressigny museum is exceptionally good and well arranged. Another writes to ' congratulate you on your pertinent editorial on museums . . . When I recently revisited the major continental museums, after an interval of thirty years, I was greatly disappointed in their appearance. They seemed so drab, poorly lighted, colourless and inadequately labelled '.

Another correspondent reluctantly agreeing with all that is said and implied by way of criticism of French museums) writes in praise of the Dutch ones. It will be recalled that we did single out the Leiden Museum, which is the Dutch National Museum, for favourable mention ; and we have no doubt at all that others at Rotterdam, Amsterdam, Nijmegen and Utrecht, which we were unable to visit—and doubtless many others besides—are equally deserving of praise. Our correspondent is particularly enthusiastic about the Central Museum at Utrecht, where ' the ecclesiastical and municipal authorities have combined their efforts : the results, installed in the buildings of the former convent of St. Agnes, must be seen to be appreciated '.

CORRIGENDA

No. 111 (September, 1954), pp. 183–5 and Plates VIII and IX. The two tombs were those numbered A and B. Others have been dug since at the same place (Katsambas).

Ibid, p. 160, lines 19 and 23, for *century* read *dynasty*.

„ p. 162, line 5, for *Atchana III* read *Atchana VII.*

„ „ 4th line from bottom, for *M.L. II* read *L.M. II.*

No. 104 (December, 1952), p. 197 : cancel lines 7 to 15 (' South of ' to ' s.w. and s.') and the two southernmost linear earthworks at Pigbush Passage on plan, p. 195. They are merely enclosure-banks.

Skeletons: some remarks on their value to the Human Biologist*

by J. S. Weiner

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IT is probably no exaggeration to say that for not a few archaeologists the examination of skeletal remains means the measurement of the cranium with the object of establishing ' race '. Indeed there may still be some who believe (or who have been led to believe) that the physical anthropologist can with confidence diagnose the ' race ' or even ' subrace ' of a single skull. What is perhaps worse is the idea that race allocation represents the entire potential biological interest of skeletal material or the sole activity of the physical anthropologist. These views are happily not so prevalent as they were not long since. There is a better appreciation of the scope of physical anthropology and of its greater concern with the general biology of human communities, their genetics and ecology—an approach which is necessary if the maximum biological information bearing on the life of extinct groups is to be extracted from the refractory material offered by skeletal remains. Human bones and teeth often give some insight into the conditions of life affecting the community as well as (sometimes) an indication of the origin and affinities of the group. For the skeleton is susceptible to modification both by the action of environmental agencies and by genetic factors. It is known, for example, that identical twins reared in different environments vary more in such ' classical ' measurements as head length, head breadth and cephalic index, than do twins brought up in the same environment (Newman, 1940). The effect of change of environment in altering the head and body shape of descendants of immigrants has been demonstrated also by Shapiro (1939) and Lasker (1946) much more convincingly than was done in Franz Boas' pioneer investigation which was subsequently criticised by Morant and Samson (1926). But much more work is clearly necessary before a genetic analysis of such polygenic characters as bone size and shape becomes available and we may hope that the current interest in studies of growth and physique in the living will provide the necessary information. Meanwhile caution must be urged in the interpretation of skeletal data. In general most insight will be obtained from comparative studies which take into account not only the chronological sequence but the synchronous geographical variation. The information which may be expected from the study of buried or cremated skeletal remains may now be briefly outlined as follows.

Demographic information.

Useful cultural, ecological and perhaps ethnic information may on occasion be obtained from an enumeration of the individuals represented in burials or cremations and from their age and sex distribution. Accumulation of data from sufficient communities offers a promise of establishing some relationship of the economy and ecology to longevity, particularly where comparisons with economic practices of existing aboriginal peoples

* Abstract of a lecture to the Oxford University Archaeological Society, delivered on 26 January 1954.

can be made (Cook, 1947). Some data provided by Vallois (1937) indicate the general trend of ' life expectation ' in different prehistoric phases. An intensive demographic analysis of a single region has been made by Goldstein (1953). From an examination of over 700 Texas Indians' skeletons (A.D. 800–1700) the author finds the mean age at death to be in the region of 24 years—a value very similar to that of the Ancient Greeks (670 B.C.–A.D. 600) obtained by Angel. Among the Texas Indians a large percentage of the deaths occur between 20 and 34 years and only 14 per cent of individuals lived beyond middle age. A group known to be practising a relatively advanced agriculture had a longevity above that of a pre-Columbian non-agricultural community.

The archaeologist may on occasion be able to arrive at some estimate of the numbers in a community from the occupation site, and type of economy. An estimate of this sort might be compared with actual numbers found in the inhumations and it may turn out that only a small proportion were in fact accorded special funeral rites. The point is mentioned because an idea of the numbers of persons represented can be obtained even from cremations. The excavations at Dorchester, Oxon (Weiner, 1951, in Atkinson, Piggott and Sanders) yielded 48 cremated burials at Site VI, and identification of these remains allowed the inference that 16 per cent more individuals were present than indicated by the separate burials. The occurrence of multiple cremations, the amount of bone in the burial and the region of the skeleton represented may all serve for making comparisons of cremation practices at different times and of different cultures, just as in fact the disposition and treatment of bodies in ordinary burials have always been studied as cultural data. It should be added that cremated bones may turn out to have value also as material for radio-active carbon dating—a matter of considerable importance in view of the rather complex distribution of cremation rite in the Neolithic and Early Bronze Ages (Piggott, 1954).

Identification of sex is of interest for many reasons, and is of course a prerequisite for comparisons of the physical characters of different populations and races since allowance for sex must be made. Identification of sex calls not only for morphological judgment and experience but will necessitate special measurements, particularly where the material is scanty. For example, the pre-pottery Jericho portrait skulls excavated by Miss Kenyon's expedition, seem at a superficial glance to be mostly female. An intensive study of the material was required before Mrs Danby, in this laboratory, could be fairly sure that most, if not all, of the six individuals are probably male. Trevor's (1954) determination of the sex of the Haua Fteah jaw provides another example of the extent of the work involved when material is fragmentary.

Howells (1941) came to the conclusion that by the usual methods of sexing the skeleton, disagreement between investigators might amount to as much as 15 per cent. Fortunately, Washburn and Hanna (1953) have now shown that appropriate measurements of the pelvis can serve to distinguish sex with an extremely high degree of precision. It is likely to be far superior for this purpose than any other bone in the skeleton. The importance of taking every care to preserve the innominate bones in excavations is therefore obvious.

Population comparisons.

The physical anthropologist like the archaeologist is interested in the derivation and affinities of a community, the question being generally whether a ' culture ' represents a new migration or merely reflects the acquisition of new industries by an indigenous population. If the population is found to be physically different from its neighbours the difficulty must be faced that characters of the skeleton are subject to both genetic and

non-genetic influence, so that differences between groups may be as much nutritional or environmental as ' racial ', or genetic. For the interpretation of resemblances or dissimilarities between population samples, the value of a wide range of geographical comparisons cannot be over-emphasised. In this way it may appear that a community distinctive in its physical character is also living in an isolated part of the general habitat and one may then find grounds for regarding it as a true genetic isolate. Or again it may appear that a number of populations have characters which fall on a gradient or ' cline '. Such a cline may then be examined to see how far it represents a possible adaptation to a range of natural conditions or whether it may be interpreted as the outcome of the intermingling of the two genetically different populations. An abrupt departure from the gradient in a cline may well signify the influx of a colonising group. With a better knowledge of the geographical distribution of the skeletal characters of Neolithic, Bronze or Iron Age peoples it should be much clearer which groups do represent extraneous elements. Here one must lay stress on the value of the long bones equally with that of the skull. There is good evidence from living peoples of a relationship of climate to physique (Roberts, 1953) shown, for example, in the ratio of limb bones to stature and between different segments of the limb bones. Skeletal material has yet to be systematically examined from this point of view, but there are indications (Roberts, 1953) that some metrical features will turn out to be related to a climatic gradient as is the case with the shape of the nasal aperture (Thomson and Buxton, 1923). Some indication of the extent to which differences in stature are dependent on differences in nutrition may possibly, in the long run, be obtained by comparing extinct populations subsisting on different types of food production.

Yet another reason for the preservation of as much as possible of the skeleton, lies in the possibility of determining certain of the blood groups (hence the genetic factors) from ground bone containing sufficient dried marrow and blood (Candela, 1939).

Conclusions.

The preceding remarks are meant to make clear to the archaeologist the great potential biological value of skeletal remains and the importance of preserving not only the skull, but also long bones and innominate bones, in fact all the remains, impartially. The over-riding requirement is for fair sized samples (say 40 adults of one sex as a minimum), adequate in both historical sequence and geographical distribution. This is obviously a long term objective. It means the steady accumulation of material in institutions where it can be adequately stored and catalogued, and made easily accessible for study, and where the conditions will ensure that new material will immediately be allocated to the appropriate categories. (In our own experience the British Museum offers these facilities and has relieved us of the expensive and space consuming problem of storage and supervision of skeletal remains).

The physical anthropologist must have a definite question in mind before he undertakes any skeletal studies. The archaeologist should therefore in general not expect that skeletal material will be automatically measured in detail, as it is excavated, in the hope that these measurements may prove to be of some use in the future. Much time and labour have been lost in this way, for many of the measurements may turn out to be unsuitable for answering a particular question, or a subsequent investigator may not agree with the technique used.

When human remains are found a physical anthropologist should be consulted in case there are special features which merit further investigation. In ordinary circumstances the physical examination should be quite general—as much as is necessary to

identify the different bones and the number of individuals, and, tentatively, the age and sex and the presence of fractures (Dinning, 1949) or other injuries or disease. The physical anthropologist should be asked to recommend where the material should be deposited so that it can augment existing samples and so enhance the value of all the material. Because of their special interest for the early origins of Man, any skeletal finds, however fragmentary, from the Pleistocene will of course merit the closest immediate attention.

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Archaeology and Television

by Glyn E. Daniel

SERIOUS and sustained archaeological broadcasting began only after the end of the 1939–45 War. It was the result of the general purpose of the Third Programme and the particular endeavour of the West Region in the persons of Frank Gillard, Head of Programmes at Bristol, and Gilbert Phelps, one of the talks producers there[1]. There had of course been archaeological broadcasts in the pre-war years, and Sir Leonard Woolley's best-selling *Digging up the Past* began as a series of talks ; but it was not until *The Archaeologist* was created by the West Region, and taken over, first by the Third Programme—it was actually the first series of talks to appear on that programme—and then by the Home Service, that archaeology began to have a recognised and acceptable place in sound broadcasting. There have been plenty of archaeological broadcasts outside this series, and so there should be ; but it was the existence of a regular series providing for the discussion of current discoveries, new techniques and new ideas and demanding thought on the part of producers and editors that, to my mind, really put archaeological broadcasting on the B.B.C. map.

Under its present producer, John Irving, *The Archaeologist* has experimented with new production techniques : *Avebury* was a feature, *Deserted Villages* was an edited unscripted discussion, and *Submarine Archaeology* a scripted discussion. Mr Irving has made tape-recordings of archaeologists in their homes, their museums, their excavations, and even of the Prehistoric Society, on location as one should perhaps say, looking at field monuments in Orkney. Many of these programmes have received high praise from professional critics, professional archaeologists, and the general listening public. What is even more important is that, to judge from correspondence and the B.B.C.'s Listener Research Service, these programmes have a wide listening public. Ambitious plans are being made for regular programmes in *The Archaeologist* in 1955 and 1956[2].

Despite the many technical experiments tried in producing *The Archaeologist* and other archaeological programmes there have been times when sound alone has been thwarting. The normal archaeological lecture is of course illustrated with lantern slides, maps, diagrams, actual objects, the blackboard and often films. During the years 1950–53 I often thought of the possibilities of television for archaeological exposition. It was obvious that visual archaeological broadcasts would come one day but that day seemed far distant ; the total amount of time devoted to TV was slight, the emphasis seemed to be on entertainment, we were assured that the average standard of education of viewers was very low[3], and that dull subjects like archaeology with dull professional exponents could not recommend themselves to the B.B.C. planners of programmes.

[1] As a matter of private interest my own first archaeological broadcast was as a substitute for the editor of Antiquity, who was unable to accept Mr Phelps's invitation at the time.

[2] And those with ideas or suggestions should write to The Producer, *The Archaeologist*, B.B.C. Bristol.

[3] We are still being told this by TV critics in the Press. Do they, and the B.B.C., consistently underestimate the public ?

These TV planners knew the public wanted personalities, stories, actual events and parlour games. It was a kind of parlour game. *Animal, Vegetable, Mineral?* that changed all that, and I say deliberately a kind of parlour game because to me it has always been more of a practical examination for the Archaeological and Anthropological Tripos. As the present Provost of King's College, Cambridge, remarked before appearing in the British Museum session of *Animal, Vegetable, Mineral?* 'This is my idea of the highest refinement in academic torture; to be publicly examined in archaeology on objects selected by one of my pupils: no nightmare can approach it'.

These archaeological and ethnographical quiz-programmes showed that the process of identification of objects and the intellectual detective expertise was of itself interesting to viewers. The *Animal, Vegetable, Mineral?* programmes which began in October, 1952, showed an interest in archaeology in the viewing public, and also gradually trained a large number of archaeologists, ethnologists, museum directors and art historians to perform with ease, or at least with an air of natural sincerity, in front of the battery of cameras and lights and microphones which fill a television studio. They also revealed that many of these performers like Sir Mortimer Wheeler, Stuart Piggott and Sean O Riordain—to mention only three Professors out of a galaxy of talent—were also TV personalities. In a word archaeology and archaeologists were not dull. Archaeology could provide for TV both parlour games and personalites. Could it do more?

Cousteau's televised programmes dealing with the Greek wreck off Marseilles showed that a serious archaeological story dealing with current events, and with, to put it popularly, 'buried treasure' was first-class viewing material. In 1953 a serious series of archaeological TV programmes was planned. Paul Johnstone, who first produced *Animal, Vegetable, Mineral?* chose the title *Buried Treasure;* mine was *The Buried Past.* Both titles expressed our immediate purpose, namely to develop the latent and expressed interest in archaeology among TV viewers by telling them simple exciting stories about archaeological discoveries, processes, and problems and telling them these stories with the assistance, where possible, of archaeologists to whom *Animal, Vegetable, Mineral?* had made a Television studio no more frightening than a lecture platform.

Six programmes were devised and produced during 1954. All were produced by Paul Johnstone of Television Talks, and in all I acted as chairman, adviser, compère, and general stooge. The first dealt with the work of the British Museum Laboratory in the cleaning and preservation of antiques; the star was Professor Plenderleith. The second programme was based on bog finds from Denmark: the stars were Tollund Man, the Gundestrup bowl, and the Dejbjerg cart. The next programme dealt with Stonehenge and the current excavations there were explained by Stuart Piggott and R. J. C. Atkinson. The fourth programme dealt with the rich chieftainess's or princess's grave from Vix in North Burgundy found last year, with its discoverer, Rene Joffroy explaining the circumstances of the discovery and demonstrating the finds. Next came a programme on the great Irish chambered tombs and the problem of their builders as illuminated by contemporary occupation sites like Lough Gur. The sixth and last programme of the 1954 series dealt with the discovery of Palaeolithic Art and was centred on the Arts Council's exhibition of the Abbé Breuil's drawings and tracings. In these programmes Sir Mortimer Wheeler, Professor O'Riordain, and the Abbé Breuil appeared to explain and comment on the films and objects shown.

Each of the programmes lasted for half-an-hour or forty minutes, and they were complicated and expensive to mount, involving among other things, filming trips abroad. The technique of production has been a fascinating one to observe; films taken in museums or in the field and dubbed with an English commentary are interspersed with

discussions in the studio enlivened by models, relief maps, diagrams, objects and photographs. The maximum amount of visual illustration and of movement has been aimed at. The archaeologists concerned have not only found themselves admirably provided with illustrative material, but have made demands which have stimulated the B.B.C. to make technical experiments. In the first *Buried Treasure* programme, Professor Plenderleith wanted to demonstrate the Ultra-Violet light process used by the British Museum Laboratory for the study of manuscripts and drawings, and this was the first time ever that the B.B.C. televised by Ultra-Violet light. In the Vix programme I wanted Sir Mortimer Wheeler and myself to be able to demonstrate routes across Europe on a relief map and for those routes to remain visually after the demonstration ; chalk and tape would not do, so we eventually used coloured tooth-paste and squeezed it out from Etruria, Scythia and Massilia to North Burgundy.

The *Buried Treasure* series has been popular beyond any reasonable expectation. According to the B.B.C.'s Viewer Research Department eleven per cent of the population have watched it, i.e. about five million people, and ' four-fifths of these appear to receive it with manifest pleasure '. The programmes have been filmed and shown in Canada where the C.B.C. have welcomed them with much enthusiasm. Some American TV Stations are also interested in these filmed programmes and the Stonehenge programme was recently taken to Moscow by Mrs Mary Adams. The Russian TV authorities thought it too educational and insisted that TV should be entertaining. (Perhaps all planners underestimate their public). The material of the programmes has been re-used for the TV Children's programmes. The Press has given a very great deal of attention to the series ; both *The Times* of London and the *Glasgow Herald* published articles with constructive criticisms of the earlier programmes which proved most helpful and encouraging.

It is clear, then, that archaeology can now be successfully put over on television in Britain. There is a large audience for it and there are endless possibilities for programmes. Tentative plans for a 1955 series of *Buried Treasure* include programmes at home on prehistoric mining, the excavation of the West Kennet Long Barrow, and Maiden Castle and the Veneti, and, abroad, on the Swiss Lake Dwellings, the Etruscans, and the Maltese temples and tombs. There are even more tentative plans to do televised programmes on recent discoveries in the Near East at Jericho, Nimrud and Saqqara. I dream of future programmes on Prehistoric Gold, La Tène Art, the Roman Wall, the graves of the Belgic chieftains, on Celtic Christianity in Ireland, on Carnac, on the Palaeolithic caves, on the Sardinian *nuraghi* and the north Scottish *brochs*—the list is endless, and one has to take a very firm hold on oneself, and ask, is all this worth doing ? Is it worth professional archaeologists spending some of their time planning, editing, and performing in these programmes ? Should we butcher ourselves for what has been hitherto mainly a pre-Roman holiday for five million viewers ? Two years ago a distinguished English archaeologist refused to consider an invitation to appear in *The Archaeologist* because he did not want ' that kind of publicity '. TV provides far worse personal publicity, so much so that, only half in jest, I have told the Television Contracts Department of the B.B.C. that they ought to consider paying special compensation to academics for the temporary notoriety they receive through television—a sort of danger-money to offset the autograph-hunters and bobby-soxers that lurk everywhere[4].

[4] Dr Kathleen Kenyon tells me that Sir Mortimer Wheeler's autograph now ranks in value as a swap with Dennis Compton's but below Len Hutton's.

It seems to me that the value of this TV effort to archaeology is enormous. ANTIQUITY and *The Illustrated London News* have always realised the public interest in archaeology and the value to archaeology of encouraging this. Recently an announcement in *The Times* told us that 3,000 posters had been printed and distributed by the Ministry of Works in Wessex to explain what barrows are and why they should not be recklessly ploughed up. In one evening the Ancient Monuments Department of the Ministry could do this explanation with films and models (including films of the Normanton Down and Manton Down destructions) to eleven per cent of the population of Great Britain—and farmers and farm-labourers are well represented among the viewing public. Successfully and intelligently used there should be no reason why television should not leave the British public in no doubt as to what its ancient monuments are. *Buried Treasure* is only a beginning ; we must have on TV a whole series of programmes showing the cultural landscape of Britain—a series beginning with Windmill Hill and carrying through to our historic houses and cathedrals, already so well done by TV.

The *Buried Treasure* programmes (except for the first) have been filmed ; they and the initial films taken in museums and in the field, exist and have already been used for educational purposes in Museums and Universities. It is proposed early in 1955 to show these to archaeologists at a London meeting of a Society or the C.B.A. As these programmes continue the B.B.C. is building up a remarkable library of archaeological films, and eventually some scheme will have to be devised whereby copies of these can be hired in a regular way from some central library. The films have the great advantage of being done by some of the best camera-men in the Television Film Unit, who often use lenses like the so called ' bees-knees lens '—so nick-named for its ability to do extremely detailed work. This lens was used to great effect in the Copenhagen Museum and on some of the Vix treasures (see PLATE I). Incidentally the Copenhagen Museum had been unable hitherto to get its treasures filmed; the Gundestrup bowl, the Dejbjerg cart and the Trundholm sun-chariot were brought out of their cases and photographed by film cameras for the first time in preparation for the *Buried Treasure* programme.

The B.B.C. has already sponsored excavations, like those in Malta in 1954 which were reported on in the Third Programme by Stuart Piggott, John Ward-Perkins and John Evans. In *Buried Treasure* the Corporation has sponsored some interesting pieces of experimental archaeology. With Stuart Piggott and R. J. C. Atkinson to advise them they experimented on the transport of a replica blue stone up the Avon and across the downs to Stonehenge (see PLATE II); the Irish programme included the reconstruction of one of Professor O Riordain's houses at Lough Gur and the processes by which it was probably built[5].

The advantages to archaeology and the possibilities in TV archaeological programmes are very large. But it must not be supposed that the advent of *Buried Treasure* means the end of non-visual archaeological broadcasting. There are many subjects which are more suitable for sound or which are impracticable for television coverage [6]. *Buried Treasure* and *The Archaeologist* must continue as complementary features giving the wide listening and viewing audiences what they apparently wish to be told about, namely modern developments in archaeology. Nor must it be supposed that archaeology is, *ipso facto*, a winner on TV. It has of course great visual appeal, but so, too, have many

[5] The value of reconstructions was splendidly demonstrated in the Crown Film Unit film *The Beginning of History*, on which see Jacquetta Hawkes, ANTIQUITY, 1946, 78 ff.

[6] On the relative merits of sound and visual broadcasting for archaeology see articles and correspondence in *The New Statesman and Nation* during September, 1954.

other aspects of knowledge. Archaeology had a good start because of *Animal, Vegetable, Mineral?* but the formulas of *Buried Treasure* are applicable, and have been applied, to other subjects. I am of the opinion that any aspect of serious knowledge properly presented on TV will get a good audience. Archaeology will soon be queueing up for space on the TV screen with geography, geology, botany, and zoology, to mention only a few disciplines admirable suited for visual presentation. But then, of course, there is going to be much more TV space. The day may not be far distant when archaeologists will find their excavations and discoveries financed by commercial interests for TV programmes sponsored by the Independent Television Authority. After all, *The Times*, *The Telegraph*, *The Daily Mail*, and the *Third Programme* have all paid out moneys for excavations during the last hundred years. But all this is in the future: so far Sir Mortimer Wheeler and I have not disclosed the type of toothpaste we used to smear over the map in the Vix programme, and visually that tube was made discreetly anonymous by the cautious—perhaps over-cautious—Corporation [7].

[7] I have discussed some other aspects of archaeology and broadcasting in *The Archaeological News Letter*, for May, 1948, and *The B.B.C. Quarterly*, VIII, no. 2 (1953).

A Century of Air-photography

by O. G. S. Crawford

WHEN I wrote a short history of archaeological and other air-photography in 1928[1] the earliest examples quoted were those taken by Major Elsdale between 1880 and 1887; this information was given me by the late Colonel Sir Charles Arden-Close, himself a pioneer of the craft. Since then two earlier instances have come to light. The Science Museum, South Kensington, has exhibited an air-photograph of Boston, Mass., taken in 1877; but unfortunately it has no history [2]. In a book published in 1930[3] there is reproduced a photograph taken above Paris from a captive balloon, taken by that photographic genius who called himself Nadar. Through the good offices of Professor Vaufrey, editor of *L'Anthropologie*, prints were obtained from the *Service Photographique des Monuments Historiques*, and two combined are here reproduced on PLATE III. They look towards the Arc de Triomphe, and have on the left the Avenue du Bois de Boulogne (Avenue Foch) and on the right that of Victor Hugo: note that these splendid thoroughfares, then only a decade old, were still only half built-up (the left hand part of the photograph is defective). Photography itself was not much older, Fox Talbot's first efforts having been made from 1842 onwards.

Lieut. P. H. Sharpe's balloon photographs of Stonehenge (1906) were the first overhead photographs taken of an archaeological object; but apart from this fact and from the record of the then state of the monument provided, they have little interest to-day. There were interesting possibilities in Sir Henry Wellcome's box-kite photographs, taken in the Sudan of his excavations there, but the 1914–18 war cut short the experiment. It was later revived independently in Palestine, with some success[4]. If cost were no object, a box-kite would doubtless be a standard item in the equipment of all archaeological expeditions.

It was not until the 1914–18 war was nearing its end that the possibilities of air-photography in the service of archaeology were realised. A unit was formed, under German leadership, in the Turkish army fighting on the Palestine front; it was called the Detachment for the Protection of Monuments (Denkmalschutz-Kommando) and was commanded by Dr Theodor Wiegand, later President of the German Archaeological Institute. Wiegand saw the use that could be made of air-photography and had some taken by Oberleutnant Falke. Some of these were published in 1920 in a book intended to be the first of a series, but actually the only one to appear[5]. Except for a distant oblique view of the Pyramids all the archaeological air-photographs are of sites close to what

[1] *Wessex from the Air*. Introduction.

[2] For the Exhibition, see *The Times*, 13 February 1953.

[3] *Aus der Fruhzeit der Photographie*, 1840–70: ein Bildbuch nach 200 Originalen, von Dr Helmuth Th. Bossert und Heinrich Guttmann. Frankfurt a.M., 1930: fig. 163, photo by Gaspard Félix Tournachon (' Nadar '), 1858.

[4] See ANTIQUITY, VI, 1932, 512.

[5] The series was called *Wissenschaftliche Veroffentlichungen des Deutsch-Türkischen Denkmalschutz-Kommandos*, and the one published had as its title: Sinai, von Theodor Wiegand, mit beiträgen von F. Freiherren Kress von Kressenstein, W. Schubart, C. Watzinger, E. Werth und K. Walzinger, mit 8 tafeln und 142 Abbildungen im text. Berlin und Leipzig; W. de Gruyter.

was then the frontier line between Palestine and Egypt (a straight line joining the head of the Gulf of Akaba to a point midway between El Arish and Gaza). Most of them are on the east side of the frontier in what is now Israeli territory—an almost rainless desert called the Negeb ; but in the Early Byzantine period, which here may be regarded as that between about A.D. 300 and 650 it contained villages, forts, monasteries and an occasional town (such as Raheiba).

The air-photographs are not all very well reproduced in Wiegand's book ; the four in the text (Figs. 49, 50, 54 and 59), being printed on unsuitable paper, are a bit smudgy, but the twelve on plates at the end (Plates III to VIII) come out much better. Professor Bersu, Director of the Frankfurt Institute, recently found a set of prints made from these negatives ; they are all extremely good, and one would never think that those here reproduced (PLATES IV and V) were enlargements made from copies. They are published here (PLATE IV, A for the first time) not so much for their archaeological interest—though that is considerable—as because they were the first air-photographs deliberately taken for an archaeological purpose and no other.

Mishrefe, an Arabic word meaning ' tower on the height ', is a kind of promontory fort about eleven miles east of Hafir el Auja and 25 miles S.S.E. of Birseba (Beersheba). Across the spur runs a dry-stone wall, with a gate in the middle (Wiegand, Fig. 53), which looks as if it cut through and was later than walls crossing its ends. Beyond are other smaller walls and scattered in between them are stone cairns, appearing on the photographs as round black spots. According to Wiegand these were for growing vines on ; he quotes (p. 63) the Arabic names for them *telelat el anab* (vine-mounds) or *rujum el kurum* (wine-hills) and says : ' The practice of collecting into heaps the stones of vine-yards and olive-yards can still be observed to-day in the stony parts of Syria, especially in the Lebanon. In Greece the heaps are called ἀρμακάδες ; and that they are common also in the north is shown by the occurrence of stone banks in the wine-producing regions of the Rhine, and in Franconia, especially to the south of Wurzburg '.

These mounds and banks demand a short excursus. The Negeb ones seem to consist chiefly of round cairns, but banks of stone do also occur intermixed with the cairns. Wiegand's Fig. 59 (near Sbeita) shows this (though it is not a clear picture), and in describing it he speaks of cairns of round and long shape (Feuerstein haufen in runden und langlichen Formen, p. 67). The German examples, which I have seen, consist of huge broad cairns running up and down the steep slopes upon which the vines grow. In Franconia they are called *Stein-rotteln*, and the ones I tried to photograph (unsuccessfully) were between Angstetten and Bieberehren on the slopes of the Taube valley. I also observed (and photographed) them in the Caucasus, on the south side of the watershed, visible from the Georgian highway. The Franconian *Stein-rotteln* were explained, not as made for vines to grow upon but as formed from the stones dug out of the holes where the vines were planted, and picked up from the surface around. I found it hard to accept this explanation, and think it more likely that they were made for the vines to grow on, there as in the Negeb.

Sir Leonard Woolley, who has most kindly read this article in proof, says : ' When you get banks of flints on the lower hill-sides, these are not for vines to grow on ; they are for water-catchment, and often end at a cistern. Sometimes they may be merely to hold up the water so as to give it time to soak in. The vines do not grow over and cover the stone-heaps, but I believe that the purpose of the latter is to protect the roots from the sun. At Sbeita the foothills on which the flint-heaps are set are to-day called Wadi Zeyatin (Vineyard Valley).'

To return to Mishrefe. Inside the cross-wall is an area without remains of buildings; then comes a square house which has a garden enclosure on the south (near) side. Wiegand suggests that this was the residence of the commandant of the fort. Next comes the church. Along the edge of the hill is a cliff face against which are built what appear to be the cells of the monks.[6] Above the cliff is a tower, and Woolley observed that from below and from a distance the cliff face looks like a wall with bastions—which are in fact the cells.

Sbeita is about 5,000 yards south of Mishrefe and due east of Hafir el Auja. It was quite a considerable town, more than a quarter of a mile long, with three churches, of all of which Woolley and Wiegand published plans. The northern church is the one seen in PLATE V, A[7]. More interesting are the houses, streets and cistern walls, the last in the top right-hand corner of PLATE V, B. There was no wall round the town; it streets run straight out and become roads between field-walls.

Wiegand refers frequently to his predecessors in the exploration of this waste land—Palmer, Musil and Woolley; and he points out the many errors of Musil.

About the same time that Wiegand was making archaeological history in Sinai, Carl Schuchhardt was doing the same on another front, in Rumania. Schuchhardt was, like Wiegand, an outstanding personality, and a field archaeologist of the first order. He had visited England in the days before the first war, and was spoken of here at that time as almost the only foreigner who had shown any interest in our prehistoric remains. His article on Stonehenge was a remarkably good effort for a visitor. In 1918 appeared a monograph[8] by him on the Roman frontier wall in the Dobrudja, and in March of the same year a series of air-photographs was taken along it. It is clear that the plan of the wall printed at the end of the book, on a scale of 1 : 75,000, was compiled and printed before the air-photographs were available, because the Frankfurt copy of Schuchhardt's map has his own annotations made after comparing it with the air-photographs. The plan is a very accurate and complete survey, as one would expect, and it needed hardly any revision.

These air-photographs were never published. Wiegand showed them to me in Berlin in December 1935. I asked him to allow me to publish them in ANTIQUITY, but although he would obviously have been glad to do so, there were difficulties in view of their military origin, and I did not press the request. Then came his death and the war, and I gave up hope of ever seeing them again. But most unexpectedly they came to light in Berlin with the others here published; and I have to thank Professor Bersu, who recovered them, and the German Archaeological Institute, for permission to publish one of them (PLATE VI) here, after a delay of just twenty years for which none of us is responsible! It shows a portion of the frontier wall five miles west of the port of Constanza. Along it are three square enclosures, doubtless forts, with what appear to be at least four other much smaller earthworks. It is not the purpose of this paper, however, to go closely into archaeological details, nor would it be profitable to do so without being able to go over the ground, now far behind the Iron Curtain[9].

[6] *Annual of the Palestine Exploration Fund*, 1914–15, 93.

[7] The left-hand bottom corner of Plate IIIa overlaps slightly with the top left-hand corner of b.

[8] 'Die Sogennanten Trajanswalle in der Dobrudscha', von Carl Schuchhardt: aus den Abhandlungen der Preussischen Akademie der Wissenschaften, Jahrgang 1918, *Phil.-Hist. Klasse* No. 12. Berlin, 1918.

[9] It may however be pointed out that in the top left corner are traces of older ploughing, antedating the existing field-plan: and a dark band that might possibly represent the ditch of a Roman marching-camp; the lower end of the line seems to be coming round to form the typical rounded corner. But this is merely a guess.

It should be stated that these photographs are not prints from the original negatives exposed in the aeroplane, but photographic copies of a series of overlapping prints mounted up together. No negatives are known to exist. It is obvious that a fresh set of photographs taken along the line of the wall, and also of the other frontier defences mentioned on p. 225 of this number, would be most valuable.

In Iraq about the same time Lieut.-Col. G. A. Beazeley, in the course of his military survey work, discovered the most amazing things when flying over the Tigris valley 60 miles north of Baghdad. Unfortunately, he was shot down and taken prisoner before he had time to complete his archaeological observations. He reported them after the war to the Royal Geographical Society, which published them in the *Geographical Journal* for May 1919.

My own work began in 1922 when I saw a set of air-photographs of Hampshire showing prehistoric and Romano-British fields. These were described in a lecture delivered before the Royal Geographical Society on 12 March 1923, and published in the journal for May of that year. My contribution advanced the study of ancient sites from the air by calling attention for the first time to what I called ' crop-sites '. Hitherto the ancient sites observed from the air had lain in dry countries, and had been revealed by the shadows cast by ruined walls of stone and brick ; in Rumania there were also soil-sites, but the air-photographs remained unpublished. In 1924 the subject was further developed by Alexander Keiller and myself, and in 1928 our photographs were jointly published in *Wessex from the Air*. A collection of air-photographs was formed at the Ordnance Survey, and some of these were published by that office in monographs called Professional Papers. From 1927 onwards ANTIQUITY regularly published some of the best of those taken by the Royal Air Force during the ordinary routine of practice.

It is not my intention, nor is space available here, to give a complete history of the later developments of archaeology from the air. All that can be done is to indicate very briefly some of the important landmarks. Group-Captain Insall, V.C., made history by his discovery of Woodhenge, by discovering and photographing the first crop-site and soil-site—for it has the marks of both—outside England, at Seleucia, one of the many ancient capitals of Mesopotamia. In 1928 I went out to Iraq and Transjordan and Egypt, and brought back a collection of negatives of air-photographs no longer required by the R.A.F. These are now at the Institute of Archaeology of London University.

Certainly two of the most important landmarks were Father Poidebard's work in Syria and Major Allen's in England, chiefly in the country round Oxford, near which place he lived. During the 1939–45 war Flight-Lieut. D. N. Riley took many air-photographs in the Fens[10] and near Oxford. Immediately the war was over Mr John Bradford found the first crop-sites in Europe when flying in Italy ; and he also secured for the University of Oxford a most valuable collection of air-photographs taken there and in the Far East during the war. Some of these were published in ANTIQUITY by him and by the late Major Williams-Hunt. The latter also called attention, in this journal, to the use of air-photographs in detecting aboriginal dwelling-sites in Australia.

Perhaps the most outstanding archaeological air surveys undertaken subsequently are those of Colonel Baradez in North Africa, Sir Aurel Stein in Syria and Iraq, Mr Eric Schmidt in Persia and Dr St. Joseph in Scotland and England. Colonel Baradez discovered and photographed a completely unknown system of Roman frontier defences, together with their forts and the contemporary cultivation systems. Sir Aurel Stein before the last war continued and amplified the work of Father Poidebard in an adjacent

[10] ANTIQUITY, XIX, 1945, 145–53.

region and his work, left unpublished by reason of his death, is to be published shortly. Mr Schmidt broke entirely new ground in a most promising and inaccessible region, where he put on the map a defensive frontier of unknown date called 'Alexander's Wall'. Dr St. Joseph has been engaged every year for several years past in taking archaeological air-photographs, with the very welcome cooperation of the Royal Air Force. He has made an astounding number of new discoveries, chiefly crop-sites of Roman forts and marching-camps in Scotland. But he has also—and this is what should be emphasized —seized every opportunity of drought and favourable ground-conditions to photograph known sites and record their plan in sensational detail. His photographs of the Roman headquarters establishment in Inchtuthil and of the city of Uriconium (Wroxeter, near Shrewsbury) are among the most noteworthy ones ever taken.

The conclusions to be drawn from this rapid and superficial survey of the history of archaeology from the air are that the best results can only be obtained when an archaeologist himself takes the photographs, and that they can only be obtained by selecting the times and seasons best suited to the subject—for some sites a period of drought or of growing crops, for others early morning or late evening when the shadows are long. Another desideratum is that the photographs should be taken vertically from a low altitude, usually not more than 2000 feet, and often lower. The ideal vehicle is not the fast-flying aeroplane but the hovering helicopter; as these words are being written the first archaeological air-photograph to be taken from a helicopter has been made of the newly revealed temple of Mithras in the heart of the city of London. (It was published in *The Times* on September 24th, 1954). A helicopter equipped with a camera and put at the disposal of archaeologists would enable us to obtain really first-class low-down vertical plans of sites like Inchtuthil and Uriconium—and doubtless of many others as yet undiscovered or unrecorded. But the helicopter must be absolutely at their disposal all the time, to seize the fleeting moments of drought, melting snow, favourable crop conditions and such like. These sites are evanescent, and will not wait for the slow mobilisation of official channels. There must be many areas of Celtic fields freshly brought under plough for the first time and ripe for a last record before complete and final obliteration. Public interest has been aroused by the Mithras temple; now is the time to implement it.

The Boars'-tusk Helmet

a recent find

by Stylianos Alexiou

Heracleion Museum

In the autumn of 1953, with the support of the Archaeological Society of Athens, work was continued in the LM II cemetery at Katsaba east of Heracleion. Test-trenches led to the finding of four tombs (Γ, Δ, E, Z) cut in the rock close to the other two (A, B), which in 1951 produced the alabaster amphora of Thutmose III[1]. One of the new tombs had been robbed, but the other three yielded many finds. Of outstanding significance was Tomb Z ; it contained three bodies in wooden coffins, and a group of vases (PLATE VII), of which the most important were a bridge-spouted jug with patterns of birds and fish, a beaked jug with papyrus-flowers, and a three-handled amphora of the Palace Style with representations of the boars'-tusk helmet (PLATE VIII). A preliminary report of the excavation is given in the 'Πρακτικά τῆς Αρχαιολογικῆς 'Εταιρείας' 1953[2]. The representations of the helmet are important enough to become the subject of a separate article in ANTIQUITY.

The amphora is 97 centimetres high and has four helmets painted in ' dark on light ', placed obliquely on the sides. The most complete helmet (PLATE IX) is 25 cm. high and 18 cm. wide. It consists of parallel horizontal bands, some of which are filled with crescents, others with rosettes. In the helmet of PLATE VIII one band has disks with a spot in the middle. On the top of the helmet is a knob, itself filled with a rosette, and above this some wavy lines. Two sickle-shaped pieces hang down beneath the helmet, with wavy lines between them.

It is at once evident that this is the boars'-tusk helmet described in the *Iliad* (X 261–5), which is represented in a series of Minoan and Mycenaean objects[3]. The crescents are boars' tusks sewn upon a leather construction for strengthening. In fact the tusks were cut straight at top and bottom and were sharp only at the top of the helmet[4]. Another difference from reality is that the rows of tusks are not placed in alternating directions, but have all the concave sides facing the same way. The vertical line seen in the middle of each crescent is purely ornamental. The disks in PLATE VIII are bronze plates sometimes used instead of tusks for strengthening leather helmets[5]. A mixture of tusks and plates on the same helmet seems unlikely, and I think that in the Katsaba amphora we have a mixture of motifs designed simply for decoration. It is for the same reason, in my opinion, that the disks are transformed into rosettes.

[1] Κρητικά Χρονικά, ΣΤ, 1952, 9 ff. cf. ANTIQUITY, XXVII, 1954, 183 ff.

[2] Cf. *B.C.H.*, LXXVIII, 1954—I, 150 f., fig. 49, 50, 51.

[3] Lorimer, *Homer and the Monuments*, 1950, 211 ff., and more recently Xenaki-Sakellariou, *B.C.H.*, LXXVII, 1953—I, 46 ff.

[4] Wace, *Chamber Tombs of Mycenae*, 1932, 214. (*Archaeologia*, LXXXII).

[5] Karo, *Schachtgräber von Mykenae*, 1930, Plate LXX, No. 541–9.

The knob with ornamental rosette is the holder for the crest—a horse-tail—shown by the wavy lines streaming from it[6]. The two hanging parts are cheek-pieces drawn freely as sickles, without boars' tusks. Both are shown, so that the artist's intention is to paint the helmet full-face, even though the cheek-pieces are represented in profile. The helmet of the Mycenae tripod hearth has exactly the same position[7]. The wavy lines between the cheek-pieces have their origin in the straps, which held the helmet at the neck (cf. *Iliad*, III 371–2).

The strips between the rows of tusks do not seem to be simply dividing lines to show the continuity of the tusks' straight ends, as Xenaki-Sakellariou seems to think[8], for they have a thickness in almost all the representations of the boars'-tusk helmet, and in certain examples are double[9]. Wace[10] explained these to arise from the necessity of closing the gap between the rows of tusks; which was accomplished either by covering the upper edge of one row by the lower edges of the row above, or with bands which encircled the helmet, each covering the edges of two rows of tusks. This second suggestion is Reichel's, who considered the strips to be leather or metal[11]. In the representation with double strips perhaps we should see bands protecting the external seams of two contiguous rows of tusks; leather bands could be sewn on these seams[12].

Since however the division in bands is also found dissociated from tusks (in one example bands are combined with metal disks)[13], we can conjecture that the strips belong to the leather construction of the helmet and cover the seams of various pieces of leather, exactly as they do in an unpublished Mycenaean greave (metal, but imitating a leather original), which Dr Yalouris has lately found in the Peloponnese. So that the tusks would cover only the more vulnerable surfaces between the strips. (This would also give us a more probable explanation of the Homeric ἔνθα καὶ ἔνθα, which in connection with ἔχον cannot mean the alternating *direction* of the tusks' rows). That the Homeric ἱμάντες belong to the leather structure of the helmet, without some intervening vaulted piece between these and the tusks, is an old view[14]. As for the πῖλος (felt) I consider with Reichel[15] that its only possible place is directly in contact with the head.

Our type does not have certain attachments that we see in other representations of the boars'-tusk helmet: the ' stephane ', the neck-pieces which close under the chin, the nape-piece, the ornamental and strengthening spiral peak with its triangular support, and the horn-shaped double projections[16].

[6] For the crest-holder, cf. the bronze helmet of the ' Hospital Site ' at Knossos, *B.S.A.*, XLVII, 1952, Plate 50a. The streamers explain the meaning of Homer's epithet, Κορυθαίολος Ἕκτωρ.

[7] *B.S.A.*, XXV, 1921–3, Plate XXXVIIa.

[8] Op. cit., 46–8.

[9] Ivory from Cyprus, Murray, *Excavations in Cyprus*, Plate II, No. 1340; ivory from Spata, Reichel, *Homerische Waffen*, 103, fig. 39; silver vase from Mycenae, ibid., 106, fig. 43a.

[10] op. cit., 214. [11] op. cit., 103.

[12] External and visible seams as those of the boars'-tusk helmet from Mycenae (Wace, op. cit., Plate XXXVIII), might be cut in fighting.

[13] Ivory boars'-tusk helmet in relief of the Candia Museum (No. 55); helmet painted on the polychrome goblet from a tomb at Zafer Papoura, Evans, *Tomb of the Double Axes*, 27, fig. 37b.

[14] Reichel, op. cit., 102, note 1.

[15] ibid, 102. Lorimer thinks the felt was between the boar's tusks and the leather straps, op. cit., 213.

[16] For these attachments of the helmet see Lorimer, op. cit., 215, and Xenaki-Sakellariou, op. cit., 53–56.

The discovery in Crete of a new example of the boars'-tusk helmet is very important. It can be added to the examples examined by Evans[17], as well as a representation on a double axe from the Yiamalakis Collection published by Xenaki-Sakellariou (see note 3), an unpublished ivory plaque found by Hutchinson in a tomb at Cnossos, and the gold plate found by Dr Platon in Episcope[18]. Even though examples from Crete have multiplied, it is not only chance that no boars' tusks have been found there, except in a tomb at Zafer Papoura[19]. Their absence is not, as Xenaki thinks[20], due to the fact that intact royal tombs have not been found in Crete, for on the Mainland many have been found in common tombs. The absence may be assigned to the premature disappearance of the animal in Crete[21] or to the fact that the animal never existed there[22]—a view supported by its absence from other islands. In island excavations generally we do not find boars' tusks; because of this Lorimer characterised the tusk helmet as a ' purely continental product '[23].

Evans tried to assign the origin of the type to Crete, depending on the MM representations found there[24]; but it is more probable that Mainlanders took over the leather or metal type of Cretan helmet without tusks, and added the tusks, which were more easily acquired in their home. It is characteristic that in Homer, although the wearer of the helmet is Cretan, the helmet itself is from Bœotia, and reached Crete via Cythera. This about fits the distribution of tusk-finds from Bœotia to Messenia. Tusks are already represented in MH layers at Eutresis and Eleusis[25].

As for dating, the Katsaba vase, on grounds of shape, motifs, workmanship and context, is to be placed in LM II, and must be about contemporary with the helmet-vase from tomb 5 near the Tomb of the Double Axes (see note 13). This coincides with the ' greatest vogue ' of the type in LH I and II[26].

[17] *Palace of Minos*, IV, 867 ff.

[18] Xenaki-Sakellariou, op. cit., 57 and 53, note 3.

[19] Evans, *Prehistoric Tombs of Cnossos*, 67.

[20] op. cit., 57.

[21] *P. of M.*, IV, 869.

[22] The boar is represented on a MM II bronze dagger from Crete, *P. of M.*, I, 718, fig. 541, but this cannot be a proof.

[23] op. cit., 219.

[24] *P. of M.*, IV, 868.

[25] Lorimer, op. cit., 212, note 2.

[26] ibid, 217.

Mound Surveys

by Seton Lloyd

Director, British Institute of Archaeology at Ankara

DURING recent years, writers in this Journal and elsewhere have been much concerned with forms of archaeological field-research which do not in themselves involve actual excavation. The purpose of this article is to draw attention to one in particular of these: namely the regional surveys of mounds which, in the Middle East, have gained so much usefulness and significance during the past two decades. Reference will be made to the complementary relationship between surface-explorer and excavator, especially insofar as it would appear to have been emphasised by a recent instance of their collaboration. This was in the case of a mound-survey in southern Anatolia, undertaken by Mr J. Mellaart, sometime Scholar of the British Institute of Archaeology at Ankara, which led to the discovery of the site called Beycesultan and its excavation by the same Institute in the spring of 1954[1].

Since the results of some surveys of the sort in question have either remained unpublished or appeared in the less accessible journals, an attempt has here been made to list those worthy of consideration and to illustrate the pattern which they now create on map of the area concerned. For the present purpose this has been limited to Asia Minor, with an extension to include the northern parts of Syria and Iraq[2]. Considering that the difficulty of locating ancient settlements in mountainous country has restricted these surveys for the most part to the alluvial plains and river-valleys, it is then most impressive to find what a large part of the ground has already been covered.

A pioneer enterprise of this sort was Mallowan's successive surveys of the Khabûr and Balîkh areas in north Syria in the middle nineteen-thirties. In the Tigris valley, the position of any important ancient sites had by then already been located and catalogued by inspectors of the Iraq antiquities service, working in collaboration with land-settlement officers, and in 1938 their work was linked to that of Mallowan by the present writer's exploration of the Sinjar province. In another sphere, almost the whole of these combined areas had been covered by Poidebard's air-survey of Diocletian's *Limes*, afterwards completed by Sir Aurel Stein. West of the Euphrates, the Balîkh survey was again linked to Braidwood's systematic work in the Amûq plain by a survey of the Jabbul district made in 1939 by Seton-Williams, and almost the whole piedmont country between mountain and desert thus accounted for. In more recent years, Seton-Williams also surveyed a part of the valley east of the Amanus mountains in which the site of Sakçagözü lies, and completed the examination of the Cilician Plain begun by Garstang in 1937.

Elsewhere in Anatolia, exploration up to 1951 had been considerably more localised and haphazard. In the Halys bend, it is true, large groups of mounds had been examined and listed, by von der Osten in the neighbourhood of Alişar and by Bittel around Boğazköy: operating from Istanbul, Bittel had also done good work in the region of Eskişehir. Much of what remains to be seen on our map is the work of Turkish archaeologists, and in particular of Kökten, who has recorded groups of mounds in many otherwise unknown districts of eastern Anatolia. In 1951, by far the largest surviving area of *terra incognita* was the southern half of the plateau, north of Taurus, from the headwaters of the Aegean rivers to the confines of Cilicia. It was this formidable province which

[1] A first instalment of the report on Mr Mellaart's survey has been published in *Anatolian Studies*, Vol. IV. Preliminary announcements in connection with the Beycesultan excavations have appeared in the *Times* of 8 May, 10 June, 6 July, 29 July and 24 September 1954.

[2] See FIG. 1.



Fig. 1. AREAS COVERED BY RECENT SURVEYS

fell to the lot of Mellaart and in the years 1951–52, it was covered by him (mostly on foot) with extreme thoroughness, in a survey which included (often with negative results), the whole south and southwestern coast from the Meander valley to the Lamas Gorge, and the interior northwards to the latitude of the Salt Lake[3].

Having summarised these enterprises (listed in greater detail on p. 220), it is interesting to note that they may clearly be divided into two separate categories, distinguished in most cases by the immediate purpose for which they were undertaken. In the first, the survey is the sequel to an excavation. Its purpose is to amplify the excavator's knowledge of the region in which his settlement is located : to estimate the extent of the province to which it belongs ; to investigate both the distribution of cultural criteria, represented among his own finds, and to supplement them by evidence of chronological periods or archaeological features which chance to be missing. Surveys in the second category are concerned with completely unknown areas, in which, as a rule, it is intended eventually to make excavations. The information obtained facilitates the choice of a site, and, if the surveyor's work is properly conducted, a study of the surface-finds provides a chronological skeleton upon which, when the excavation begins, otherwise meaningless discoveries may be hung.

To quote a classical example from the first category, Braidwood's survey of mounds in the Antioch plain was made after the Oriental Institute excavations at three sites in the area—Judaidah, Chatal Hüyük and Taynat. He was accordingly able to classify the archaeological periods represented among the surface finds from each mound in terms of the chronology already established by the excavations. Other surveys in this category, together with the site of the excavation to which they were a sequel, may be listed as follows :—

Sakçagözü area.	Excavations at	Sakçagözü.
Cilician Plain.	,,	Mersin and Tarsus.
Halys Bend.	,,	Alişar, Alaca : Boğazköy.
Aegean Coast.	,,	Bayraklı (Old Smyrna).

The remaining surveys in the general list fall into the second category, and most readers will recollect the important excavations to which some of them served as a prologue. It is perhaps only necessary to quote as an example Mallowan's Khabûr survey, as a result of which the sites called Chagar Bazar and Tell Brak became famous. There can be little doubt that this category represents the more logical form of procedure, and, from the accumulating experience of results, one can now formulate certain precepts for the conduct of the work envisaged, whose observation is essential to its full usefulness.

The explorer's aim is to obtain two forms of evidence. These are in themselves complementary and their significance interdependent. The first is topographical and concerns the character and distribution of ancient settlements : the second is material evidence, provided by surface finds. For the one purpose, then, various types of sites must be carefully distinguished (i.e. mounds, flat sites, hill-settlements, forts, tumuli, etc.). For the other, pottery in particular must receive careful and systematic study. The whole assemblage must first be subjected to analysis and classification, where possible by comparison with published material of established date and provenance, new or unfamiliar material being related according to the circumstances of its discovery. When repertoires corresponding to distinct chronological periods or geographical areas have thus been distinguished, a further study of their representation at each individual site

[3] A survey of the northwestern region approximately corresponding to the ancient province of Bithynia is at present being made by Mr C. Burney, Institute Scholar for 1954.



FIG. 2. DISTRIBUTION OF LATE BRONZE AGE SITES IN SOUTHWESTERN TURKEY

should yield maximum information regarding its history. When the total evidence obtained in this way has been tabulated in the form of distribution-maps and typological diagrams, the major inferences which can be made will fall under the following heads :

(1) The extent and interrelation of ' cultural provinces ', characterised by the preference for particular ceramic forms and techniques. (E.g. A combination of excavations and surveys has delimited with some certainty the area in Anatolia inhabited by makers of the so-called ' Cappadocian ' painted pottery.)

(2) The comparative density of population in any area at a given period. (Admirably illustrated by Braidwood's maps of the Amûq.)

(3) Pointers to the economy of a particular period, as suggested by the grouping of settlements (i.e. in alluvial valleys, hill-country, etc.) and military exigencies indicated by the placing of forts. (E.g. The chalcolithic inhabitants of Sinjar cling to the foothills of their mountain-range, whereas their descendants in the second millennium found cities far out in the cultivable steppe.)

(4) The direction of ancient roads, indicated by lines of sites, often at the crossing of streams or rivers.

(5) Material for the study of historical geography and the identification of ancient place-names.

Such are the results which my be expected of an archaeological survey when intelligently conducted. In inexperienced hands, it may of course deteriorate into a mere catalogue of uncorrelated sites.

In the light of these strictures, it is now proposed to examine the results of the recent survey in southern Anatolia already referred to. For this purpose the information, supplied by Mr Mellaart himself, is arranged according to the successive archaeological periods represented.

In dealing first with the Neolithic and Chalcolithic, one must of course bear in mind the present situation in regard to Asia Minor. Neolithic settlements have been positively recognised only at Mersin and Tarsus in Cilicia, and at Sakçagözü in the valley east of the Amanus, while the subsequent ' Early Chalcolithic ' painted pottery culture, so well represented in north Syria and Mesopotamia, has appeared till now to have a well-defined northern frontier, which includes only Cilicia and the great river-valleys descending from the Anatolian and Armenian highlands towards the southern desert. Beyond this, in Anatolia proper, the dating of the earliest settlements has remained enigmatic, and some scholars have risked the opinion that the plateau continued to be uninhabited until the final phase of the Chalcolithic period, which corresponds to the first settlement at Troy. Viewed in this light, some of Mellaart's discoveries are of considerable interest. They are as follows :—

(1) A group of sites in the neighbourhood of the Beyşehir and Seydişehir lakes (north of Taurus), where the Upper Neolithic or Early Chalcolithic cultures of Mersin are represented by closely related dark and light burnished wares and an obsidian industry. These can be easily associated with the steatopygous figurines found at Çukurkent, near Beyşehir, and suspected by Bittel[4] of being pre-Troy I ; while the obsidian industry reminds one again that neolithic implements of this material have been found at Ilicapinar near the Salt Lake in the Konya plain and hitherto explained as evidence of an isolated settlement of salt-miners[5]. The obsidian sources around Aksaray and Nevşehir would thence be easily accessible.

[4] *P.Z.*, XXXIV–V (1949–50), p. 135 ff. [5] *A.A.*, LVII, pp. 87–92.

(2) *Chalcolithic.* There is some evidence for the spread of Mesopotamian painted pottery cultures beyond Taurus onto the plateau. The Hassuna and Tell Halaf types of ornament occur as far to the northwest as Kizilviran Hüyük, half-way between Konya and Beyşehir. Of interest in relation to the Mersin chronology is the presence of Mersin XVI pottery types (burnished cream-slip wares, plain and painted : bi-chrome painted wares, etc.), which, at the type-site were considered to be a foreign settlement[6]. In the Konya Plain, this ware seems to have had a prolonged lifetime, developing later into a ' painted-metallic ' pottery[7], which combines some purely Anatolian shapes with reminiscences of Mersin.

Already foreshadowed in the limited extent of the finds so far mentioned, is the division of the geographical area covered by the survey into two distinct ' cultural provinces '. Thus a ' Southwest Anatolian ' province is now to be distinguished from the Konya Plain. This is characterised by a hitherto unknown Chalcolithic pottery, extending from the Akşehir lake and Afyon in the north as far as Pisidia, with major sites occurring in the upper Meander valley between Çivril and Dinar. Burnished wares of red, yellow, black or gray have shapes strongly reminiscent of the earliest unpainted AI wares of Thessaly[8], and the neolithic Urfirnis of Corinth. This localised manifestation of Chalcolithic seems afterwards to develop evenly into an Early Bronze culture, with a preponderance of white-on-black painted pottery which can even be subdivided into regional groups. In this case, parallels can be found at Troy (I) and Yortan, or even as far afield as Tigani in Samos. The major division between the two provinces is now a shade less clearly defined, since the detached district which includes the Eğridir, Beyşehir and Suğla lakes, shares some characteristics of each.

The second millennium in Anatolia, or more accurately the period between about 1900 and 1200 B.C., is most conveniently divided into a Middle and Late Bronze Age, the transition from one to the other occurring between 1600 and 1500 B.C. During the first of these periods it is possible to recognise, in terms of pottery, the following geographical pattern of civilization.

(*a*) *Cilicia.* Conspicuous influence of north Syria in use of painted wares, etc.

(*b*) *Central Anatolia*, including the Kayseri and Sivas areas. ' Cappadocian ' (Alişar III) painted wares, combined with fine red and buff burnished pottery.

(*c*) *Northwest Anatolian*, extending east as far as Bozhüyük and Tavşanlı, south as far as Smyrna and the Hermus valley. Troy VI, red and gray, so-called ' Minyan ' wares.

To these can now be added (see FIG. 2) :—

(*d*) *Southwest Anatolian*, where red and buff burnished wares of the Kusura B/C types are preponderant and painted wares not represented.

(*e*) *Konya Plain*, where again in the absence of painted pottery, burnished wares resemble those of the Halys and Kültepe.

In the Late Bronze Age, notable changes take place in the two new provinces. In the Konya Plain, the fine red and buff burnished pottery has deteriorated or been replaced by plain and coarse wares. But in Southwest Anatolia, on the contrary, the corresponding material has developed into something new and remarkable ; an extremely refined product coloured cream, red or brown, sometimes of almost metallic thinness, showing

[6] Garstang, *Prehistoric Mersin*, pp. 111–12.

[7] cf. Mellaart in *Anatolian Studies*, IV.

[8] Wace, *Prehistoric Thessaly*, pp. 13, 59, etc. *Corinth Hesperia*, 1937, p. 407 ff. *A.J.A.*, LI, 1947, p. 174, note 71.

moreover a preference for characteristic individual shapes, not found elsewhere, many of which point to a metallic origin. The line of demarkation also between the two provinces is once more clearly defined[9]. It starts in the north, on the western flank of Emirdağ and runs southwards through the Eğridir lake towards the frontiers of Lycia and Pamphylia.

It was the definition of this new southwestern province, densely populated, as the distribution maps show, in the Late Bronze Age, by a people with a distinctive but unfamiliar material culture, which appeared to constitute one of the most significant contributions made by Mellaart's survey. It could already be seen to constitute a part of the territory, generally considered as belonging to the people of Arzawa. When, therefore, in 1954, an excavation was contemplated by the Ankara Institute, at some site which might be likely to contribute to our knowledge of that enigmatic state, it was the configuration of mounds in Mellaart's Southwestern Anatolian province which had first to be carefully studied. The choice of a site then became comparatively straightforward. Centrally and conspicuously placed, in the wide and fertile valley of the upper Meander, around modern Çivril, was a concentration of Late Bronze Age settlements, suggesting some major political enclave, and at a road and river-crossing in its centre, a site called Beycesultan was registered as one of the largest city-mounds in Anatolia, having indications of final occupation in about the 13th century B.C.

In addition, therefore, to thus facilitating the choice of a site, the surveyor's preliminary work has provided a wider regional picture into which the first finds can at once be fitted, with an unusual measure of certainty about their dating.

DETAILED LIST OF SURVEYS WITH PARTICULARS OF DATE AND PUBLICATION

(1) GEBEL SINJAR: 1938. S. Lloyd. *Iraq*, v (1938), p. 123 ff., fig. 1 (map).
(2) R. KHABÛR: 1934–35, 1936. M. Mallowan. *Iraq*, III (1936), p. 1 ff., fig. 1 (map). *Iraq*, IV (1937), p. 91.
(3) R. BALÎKH: 1938. M. Mallowan. *Iraq*, VIII (1946), p. 112 ff.
(4) JABBUL PLAIN: 1939. R. Maxwell-Hyslop, J. du Plat Taylor, M. V. Seton-Williams, J. D. A. Waechter. *PEQ* (1942), p. 8 ff.
(5) AMÛQ PLAIN: 1936. R. Braidwood. 'Mounds in the Plain of Antioch'. *OIP*, XLVIII (1937).
(6) SAKÇAGÖZÜ AREA: 1949. J. du Plat Taylor, etc. *Iraq*, XII (1950), p. 57 ff., fig. 1 (map).
(7) CILICIAN PLAIN: 1951. M. V. Seton-Williams, etc. *AS*, IV.
(8) ELBISTAN PLAIN: 1947. W. C. Brice and A. Dönmez. *Iraq*, XI (1949), p. 44 ff., fig. 2 (map).
(9) ALIŞAR AREA: 1928–32. H. H. von der Osten. *OIP*, XXX, pl. III, pp. 412, 424, 430, 438, 452, 454.
(10) BOĞAZKÖY AREA: 1931–39. K. Bittel. *Boğhazköy-Hattusa* (1952), p. 161 ff., fig. 40.
(11) SAMSUN-AMASYA AREA: 1940–41. K. Kökten. *DTCD*, III (1945), p. 465 ff., map I. *Belleten*, IX (1945), pl. LXXIV, p. 394.
(12) BAYBURT AREA: 1940–45. K. Kökten. *DTCD*, III (1945), p. 465 ff., map 3 : 4. Notes only.
(13) SIVAS AREA: 1940–45. K. Kökten. *DTCD*, III (1945), p. 465 ff., map 3 : 4. Notes only.
(14) ELAZIĞ AREA: 1945. K. Kökten. *Belleten*, XI (1947), pl. LXXVII, p. 431 ff., map Notes only.
(15) MUS AREA: 1945. K. Kökten. *Belleten*, XI (1947), pl. LXXVII, p. 431 ff., map. Notes only.
(16) SOUTHERN ANATOLIA: 1951–53. J. Mellaart. (*BIAA*), *AS*, IV. (Partly unpublished).
(17) WEST COAST AND IZMIR: 1948–49. Anglo-Turkish Bayraklı Expedition (unpublished).
(18) BALIKESIR PLAIN: 1936. J. Stewart. AfO 13 (1940) (unpublished). Ankara Halkevi Neşriyatı, No. 20. *Türkiyede 1936 yılındaki Arkeoloji Işleri*, p. 39, pl. XXIII.
(19) IZNIK-ESKIŞEHIR-UPPER SANGARIUS R.: 1936–37, 1941–42 (?). Bittel (unpublished). See *Demirci Hüyük*, pl. I for Bozhüyük-Eskişehir (1939).
(20) NORTH ANATOLIA: 1954. Ch. Burney. (*BIAA*)—(in progress) East Bithynia—Paphlagonia.
(21) TROY: 1932–36. Blegen. *Troy* I, fig. 415.

[9] cf. FIG. 2.

Notes and News

RECENT WORK AT STONEHENGE

By kind permission of the Editor, we reprint below (with one slight alteration) an article published in the *Times*, Aug. 4th last.

The earliest monument on the site—Stonehenge I (FIG. 1)—consisted of a bank with external ditch, about 300 feet in diameter, with a wide entrance to the northeast. Outside this entrance stood a single undressed sarsen (sandstone boulder) upright, the Heel Stone, within a small encircling ditch. Inside the bank was a circle of 56 large ritual pits, the Aubrey Holes, which had held neither stones nor posts, but had been deliberately filled, sometimes with subsequent excavation and a second refilling, in prehistoric times. Deposits of human cremated bones were also found in these pits and elsewhere in the ditch, bank, and adjacent area of the interior.

This type of monument, the cremation burials and the objects found with them—long bone pins and a polished stone macehead—are all typical of the Secondary Neolithic cultures of Britain, early in the second millennium B.C. Charcoal from an Aubrey Hole excavated in 1950 gave a radio-active carbon reading which indicated a probable range of date between 2123 and 1573 B.C.

Although there is no direct evidence of stone structures other than the Heel Stone in Stonehenge I, nevertheless chips of rhyolite of the Blue Stone series described below were found in the bottom of the ditch round the Heel Stone, and low in the silting of the main ditch. Some Blue Stone monument must, therefore, have stood either on the site or not far away.

Indeed, the next constructional phase—Stonehenge II (FIG. 2)—involved the use of the famous Blue Stones, mainly spotted dolerite, rhyolite, and volcanic ash, all from the Prescelly Mountains in Pembrokeshire. There is reason to think that this phase followed quickly after the completion of Stonehenge I, and the Beaker pottery associated with it is broadly contemporary with the Secondary Neolithic cultures to which Stonehenge I can be assigned. The recognition of this early Blue Stone monument was only made possible by this season's excavations within the stone circles themselves.

In their present positions the Blue Stones stand in two settings, a circle and a horseshoe, within the great sarsen peristyle of lintelled uprights, the circle lying between this and the sarsen trilithons. Excavation of an arc of this Blue Stone circle revealed, next to a surviving standing stone, three successive stumps of stones deliberately broken to below turf level, and, and, beyond these, sockets for two destroyed stones before the next survivor—now fallen—is reached. The spacing was very close indeed, and the whole circle must have consisted of about 60 stones.

But the excavation showed that, in their present setting, the Blue Stones are rearranged from an earlier structure approximately of the same radius, but consisting of a double circle, each of about 35 stones, the inner circle set only six feet within the outer one. Each adjacent pair of stones stood at the two ends of a large radially set dumb-bell-shaped hole, which was then firmly packed with chalk rubble. After the stones had been removed from these double stone-holes, which had then been repacked, they were set in their present position in such a manner that their sockets sometimes impinged or cut into the earlier holes, or, in places, missed them altogether because of their wider spacing. But between the removal of the original double circle and its resetting came a decisive point in the history of the monument, the erection of the sarsens in the first

phase of Stonehenge III, described below. It could be shown stratigraphically that a stone-hole of the outer sarsen circle cut through rammed chalk filling replaced in one of the double Blue Stone stone-holes after the removal of the stones.

The double circle of Stonehenge II had its entrance (excavated in 1926, and apparently marked by an additional pair of stones set on the inside) aligned not centrally over

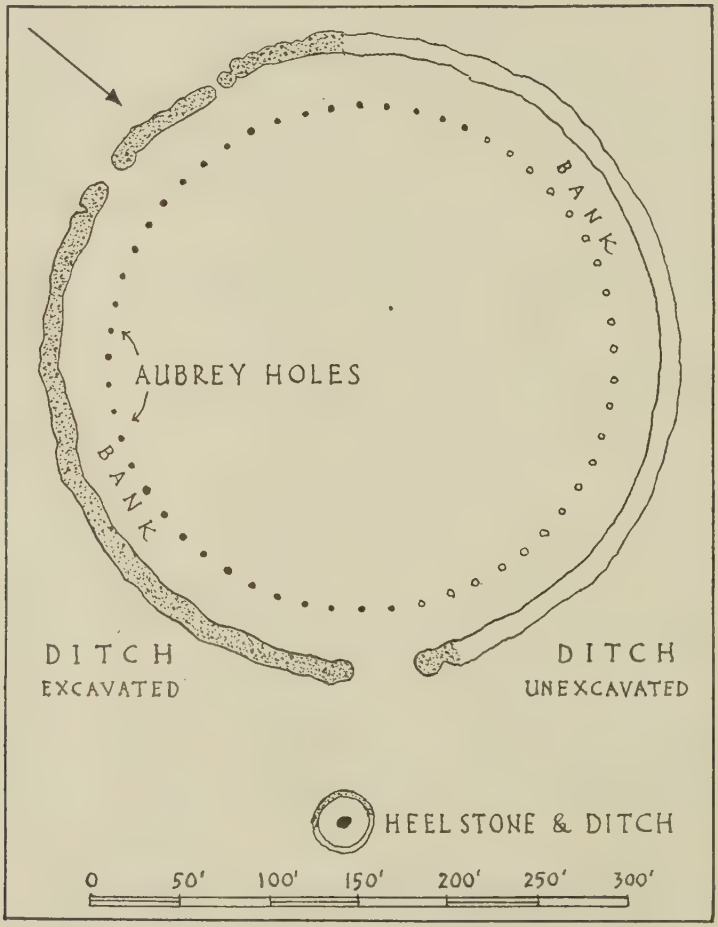


FIG. 1. SKETCH-DIAGRAM OF STONEHENGE, PHASE I

the causeway of the ditch of Stonehenge I, but on what is now the axis of the whole monument, the orientation on the midsummer sunrise marked by the Avenue, which may well belong to Stonehenge II, though it could be a part of Period III. The deliberate refilling of part of the ditch at the entrance in ancient times, noted in the excavation of the 1920s, would have taken place at the same time, as it makes the entrance symmetrical with the Avenue and the axis of the stone structure of Periods II and III.

Stonehenge III can be divided into three constructional phases. The first we have already touched on—the removal of the original double Blue Stone circle to erect the sarsens. Presumably the complete plan of the sarsen structure was decided on at this point, and with it would go the so-called Four Stations (small sarsen uprights, two enclosed by ring-ditches) whose diameters cross on the centre of the main structure: they stand just without the bank of Stonehenge I. In Stonehenge III (*a*), therefore, we should have the erection of the sarsen peristyle and horseshoe of great trilithons, and

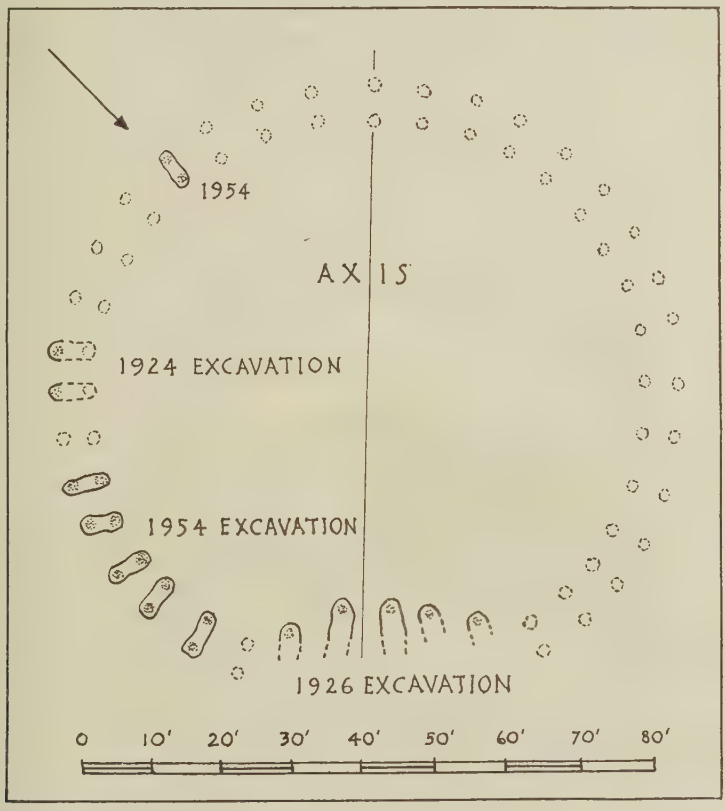


FIG. 2. SKETCH-DIAGRAM OF BLUE STONES IN STONEHENGE, PHASE II

the outlying Four Stations and the originally upright Slaughter Stone, probably one of a pair between which the axis passed.

Stonehenge III (*b*) is the most problematic phase of all, but it is suggested that the 59 holes which surround the sarsen peristyle in two irregular rings, the Y and Z holes, may have been intended to take the Blue Stones in a scheme which was never carried out. The irregularity of the lay-out of these circles implies that they were not struck from a centre, and that the presence of the sarsen uprights prevented such a procedure; they were allowed to silt up naturally after they had been dug, and do not seem to have ever held uprights of wood or stone.

The last phase, Stonehenge III (c), would see the completion of the monument by the resetting of the 60 Blue Stones in a close-set single circle inside the sarsen peristyle; and the erection of 19 additional Blue Stones to form a horseshoe within the sarsen trilithons. The surviving stones of this horseshoe setting are all fine pillars of spotted dolerite, larger and better worked than the survivors of the circle, and conceivably represent a second importation of stones either from Prescelly, or from a local monument in which they were incorporated. Two stones of the horseshoe have the traces of tenons on their tops; two lintels were re-used as uprights in the Blue Stone circle. One stone of the horseshoe has an enigmatic groove worked down its edge, and another a corresponding ridge.

All these features point to an original Blue Stone monument incorporating features which included trilithons with mortice-and-tenon jointing as well as an appreciation of tongue-and-groove technique. With our new knowledge of the priority of some form of Blue Stone monument actually on the site before the sarsen structure, it looks more and more as if these constructional features, which form so striking a feature of the sarsen trilithons and peristyle today, may have been devised first for a Blue Stone monument, and later copied on a majestic scale in sarsen.

Direct evidence for the date of Stonehenge III is lacking, and, indeed, archaeological material in association with the stone structures on the site is exceedingly rare. But the recognition last year of prehistoric carvings on certain of the sarsens, apparently contemporary with the original dressings of the surfaces of the stones, gives us a lead. The representations of bronze axe-blades accurately show types in use in Britain around the middle of the second millennium B.C., and especially in the brilliant local Bronze Age of Wessex.

A hafted dagger, if an equally accurate representation, would appear to depict no type current in western Europe or Britain at this time, and its nearest parallels would be in the Mycenaean world of the 16th or 15th century B.C. The much-weathered carving cannot confidently be identified as representing such a dagger, but such a connexion would be by no means improbable in the framework of the prehistory of the period. Around Stonehenge are grouped the barrow-cemeteries of what must have been the ruling clans or dynasties—the royal tombs of the Wessex Bronze Age. The earliest burials in these cemeteries go back to Neolithic and Early Bronze Age times in the opening centuries of the second millennium, and they culminate in the richly furnished graves of the fifteenth century or so. In these and similar tombs we find evidence of far-flung commercial contacts stretching to Bohemia, Ireland, and the Mycenaean world itself.

Stonehenge is unique, the individual creation of an architect whose capabilities in design and proportion were far beyond those of barbarian north-west Europe at the time, and if we look for likely orgins it is to the Aegean we would naturally turn. The circumstances of the contacts, the designing, and the command of skilled labour involved are things we can never know from archaeological evidence, but we can at least clarify the sequence of construction and define its chronological limits. STUART PIGGOTT.

THE LOWER BESSARABIAN VALLUM

Recent work on the linear earthworks of Britain adds interest to a recently published and accessible study (in French) of the vallum of Lower Bessarabia. The article, by Professor Radu Vulpe of Bucharest, appeared in the *Festschrift* presented to Gavril Kazarow (*Bulletin de l'Institut archéologique bulgare*, vol. XVI, 89–98); it contains a full bibliography of the more detailed and less accessible sources of information.

The vallum, a linear earthwork running from the River Pruth to the lagoon of Conduc on the Black Sea, is a composite work (FIG. 1). The first stretch of 21 miles, starting on



DETAIL OF ONE OF THE DECORATED PLATES ON THE VIX *KRATER* TAKEN BY A B.B.C. TELEVISION FILM CAMERA

facing p. 224



SCHOOLBOYS HAULING A COPY OF ONE OF THE BLUE-STONES WITH ROPES AND ROLLERS

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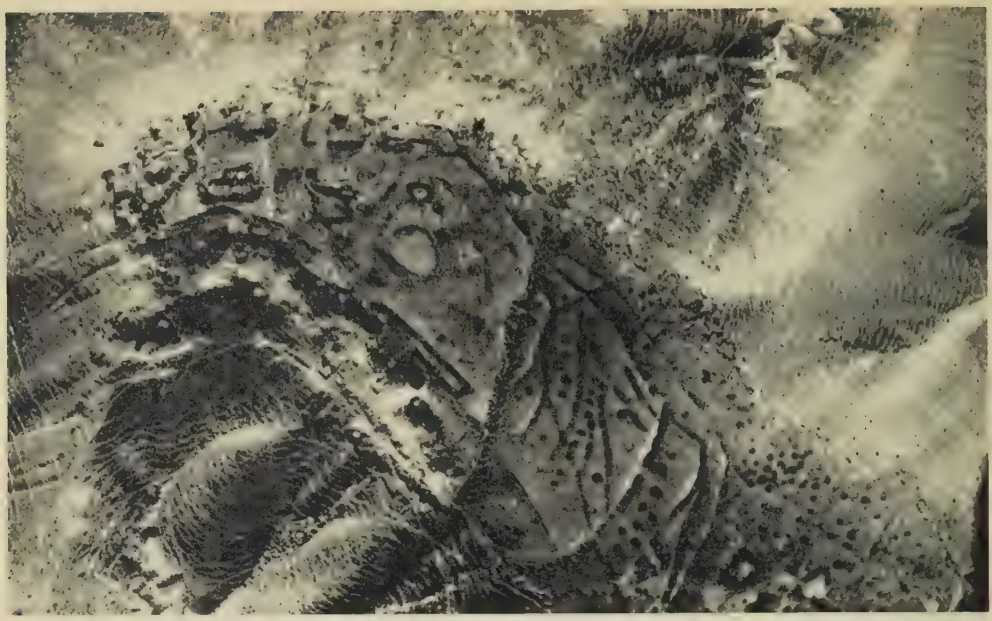


PARIS IN 1858

Left-hand, labelled: 'Nadar-cliché ancien No. 14 (Vue no. 4). Photo-aerienne prise par Nadar en 1858. Avenue du Bois de Boulogne (Avenue Foch)'. *Service Photographique des Monuments Historiques.*

Right-hand, labelled: 'Nadar-cliché ancien No. 14 (Vue no. 6). Photo-aerienne prise par Nadar en 1858. Arc de Triomphe: à gauche avenue du Bois de Boulogne (Avenue Foch); à droit avenue de Victor Hugo'. *Service Photographique des Monuments Historiques.*

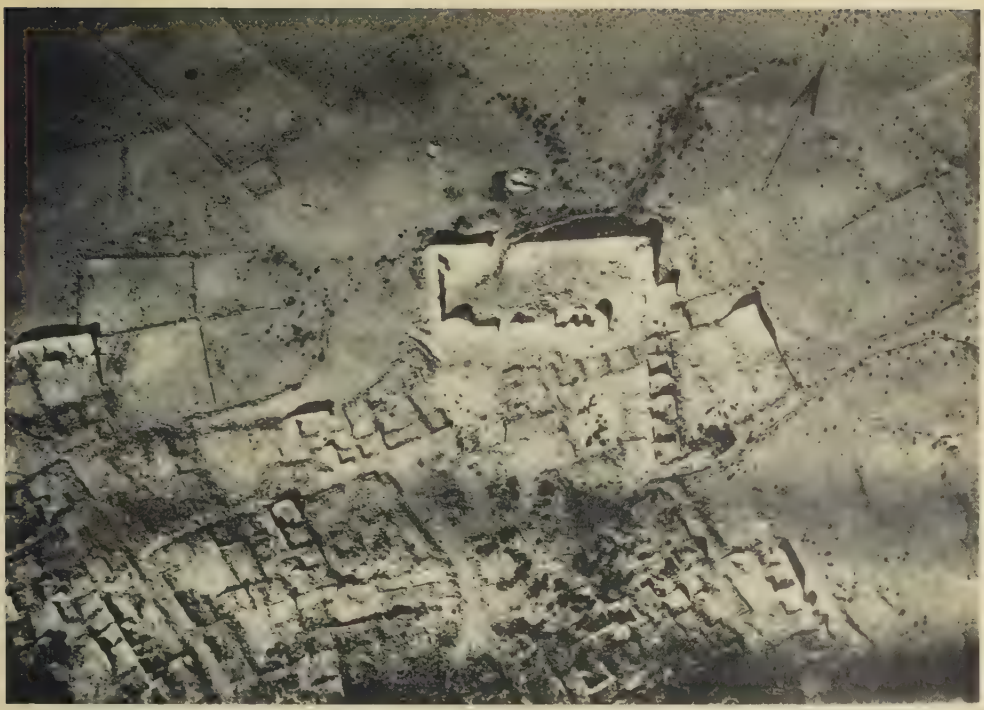
PLATE IV



a. MISHREFE



b. MISHREFE (Wiegand, fig. 54, p. 63). (700 metres). cf. Musil, ii, fig. 34, p. 45



a. SBEITA: NORTHERN PART OF TOWN SHOWING THE CHURCH
Photo by Oberleutnant Falke from a height of 800 metres (Wiegand, plate vi, lower)



b. SBEITA: WEST PART OF TOWN WITH GARDENS
Photo by Oberleutnant Falke from a height of 800 metres (Wiegand, plate vii, upper)



THE ROMAN FRONTIER WALL ACROSS THE DOBRUDJA, 5 MILES WEST OF CONSTANZA, RUMANIA
Photo taken by the German Air Force, March 1918



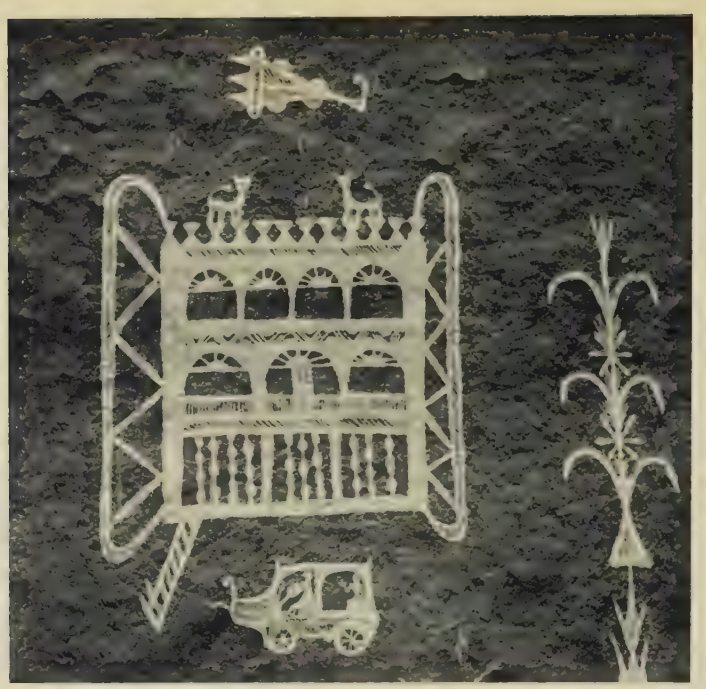
LM II POTTERY FROM TOMB Z AT KATSABA, CRETE



THE HELMET-VASE FROM TOMB Z AT KATSABA, CRETE



BOARS'-TUSK HELMET ON LM II VASE FROM KATSABA, CRETE



a.



b.

ADEN PICTURES (see pp. 227–8)





ADEN PICTURES (see pp. 227–8)

the east bank of the Pruth, consists of a carefully finished bank and ditch separated by a berm about 10 feet wide. The bank is between 7 and 10 feet high, with a vertical measurement of about 16 feet above the present bottom of the ditch. The second stretch of some 15 miles carries the line as far as the shore of Lake Catlabug, near the head of the Danube Delta. It is on the same scale and carefully executed, but lacking the berm. The third part forms an extension of the line eastward ; it diverges from the older work some 2 miles before its termination and runs for about 42 miles on to Lake Conduc. It is on the same scale as the first two, but the work is less carefully finished. The whole

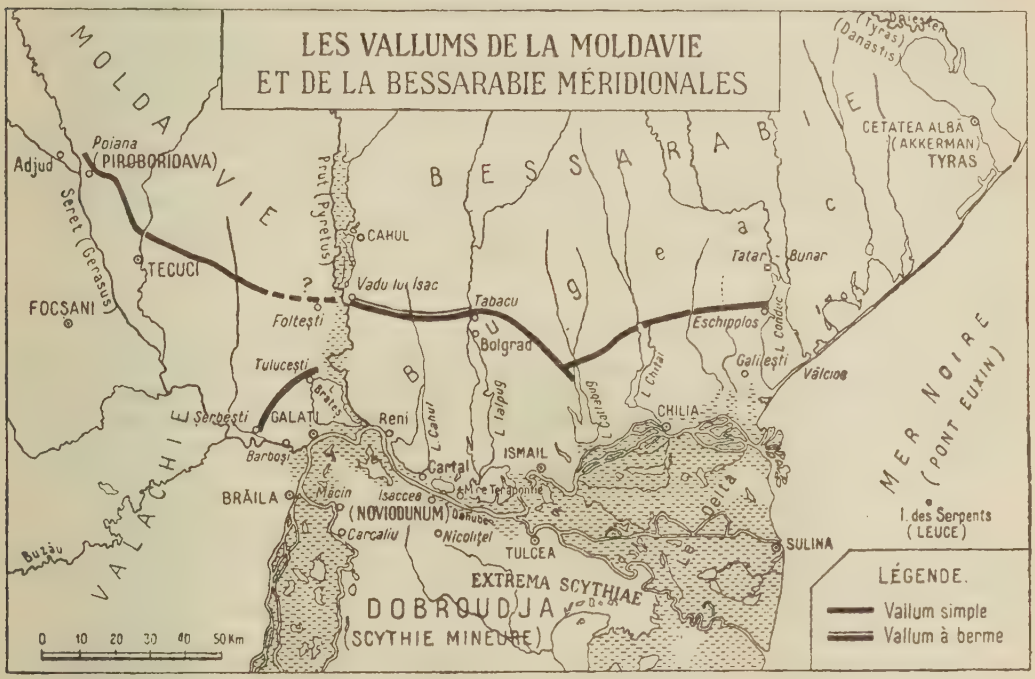


Fig. 1

system consists of a simple linear earthwork, without associated forts or towers and apparently unprovided with a palisade.

Further west a short rampart, running in an arc from the marshes of the Pruth to the Sereth, covers the approach to the modern city of Galatz. It is on the same scale as the Bessarabian vallum and appears to prolong the line westwards*.

The Lower Bessarabian Vallum has been attributed to several peoples and periods and, in the absence of excavation, no definite conclusion is possible. Popular tradition ascribes it to the Emperor Trajan and a Roman date has been accepted by many scholars. Professor Vulpe argues with justice that the vallum can never have been intended to

* A second vallum running from the Pruth to the Sereth at Poiana is also shown on the accompanying map. It is unfinished work on a slighter scale and should probably be equated with the Gothic wall of Athanaric (*Ammianus Marcellinus*, xxxi, 3, 7).

protect merely the narrow strip of territory on the north bank of the Danube. It must be the work of some people holding the Dobrudja and the hinterland south of the river. The only peoples in question are therefore the Romans and their Byzantine heirs and the early Bulgars. He dismisses somewhat summarily the last named on the ground that their ' defensive system lacked the detailed organization of the Romans with its chain of camps and fortresses along the Danube and their subsidiary works. It is probable that outside Silistria and Varna they (the Bulgars) had no considerable garrison in the north of their Balkan Empire. Still less would they have crossed into Bessarabia to erect a defence covering the crossings of the Danube '. This argument will hardly appeal to English archaeologists, who recall the background and siting of Offa's Dyke, a contemporary linear earthwork pushed far into the foothills of the Welsh march. The early Bulgars, a nomadic people, would have been as interested as the Mercians in preventing cattle raiding. The Bessarabian Vallum, in the opinion of Professor Vulpe, is a work of the 4th century, when the Romans held the line of the Danube with a chain of fortresses and bridgeheads on the left bank. ' To cover their principal line along the Danube, the Romans had recourse to supplementary works, such as our vallum, which is merely a simple material obstacle designed to stop or at least to delay the enemy in his advance towards the crossings of the river and give the Roman troops the respite needed to prepare their counterstroke '.

THE FATE OF THE CHINESE SKULLS

About a quarter of a century ago the fragmentary remains of extremely ancient human skulls were found at Choukoutien near Peking. The first finds were later added to and implements found also. During the war of 1939–45 all these remains disappeared, and all efforts to rediscover them have so far failed. Fortunately casts were made of all the more important specimens, and these are still available for study in Europe and America.

Chinese journalists have recently used the disappearance for purposes of political propaganda, accusing the Americans of having stolen them. It all began with an unfortunate mistake made by Professor D. M. S. Watson, of London University, who, when visiting the American Museum of Natural History in 1945, saw *another* ancient skull which was found in Java and bears the name of Solo XI, and which he mistook for the skull called Choukoutien XI. He spoke about the matter to his friends, and in 1951 he repeated the story to Dr Walter Kuhne who is described as ' Faculty member of Berlin's Humbolt University in the German Democratic [i.e. Communist] Republic '. Dr Kuhne repeated the statement of Professor Watson in a letter he wrote to ' Dr Young of the Chinese Academy of Sciences ', adding, but without disclosing his authority for this accusation, that the skull had been ' looted by an American soldier from the Imperial Japanese collection '. It was further conjectured that the looting was carried out under orders issued by the U.S. occupation authorities in Japan, and this completely baseless fabrication was then yet further embroidered.

The plain fact is that an honest mistake was made, and Professor Watson has admitted it, in a letter which he allows me to print : it is dated from the Department of Zoology of University College, London, 30 August 1954, and runs as follows :—

' The statement that I saw a skull of Peking Man in the American Museum of Natural History in 1945 is an error. What I did see there was a skull from Java, one of the Solo series, which had been found in Japan after the war '.

It seems that, when the Japanese occupied Java, they sent this skull as a birthday present to their Emperor. It was subsequently recovered and eventually handed back by

the Americans to its proper custodians, the Dutch. Some of these facts are given by Professor von Koenigswald.*

Two accounts are given of the movements of the skulls and other objects immediately before their disappearance. The *New China News Agency* (15 January 1952) which as the source of the tales just controverted is not to be trusted, states that 'originally the entire " Peking Man " collection, including the No. XI skull, belonged to the Cenozoic Research Laboratory of the Geological Survey of China . . . It was kept in the custody of the Peking Union Medical College, then an American subsidized institution. In November 1941, shortly before the Pacific war broke out, T. Bowen, American controller of the College, removed the prehistoric fossil to the former American embassy, preparatory to shipping it to the United States. At that time the fossil was to be " evacuated " together with the American marines via Chingwangtao. But the war broke out and the American embassy, together with its warehouses in Peking, Tientsin and Chingwangtao, was occupied by the Japanese invading army. Since then the " Peking Man " has been missing '.

Professor Watson's account is quite different. ' Weidenreich ', he says (in the same letter to me), ' told me not long before his death that he had been particularly careful to place them in Chinese custody, and that they were being taken to Tientsin by Chinese when they were lost to sight '. It would appear from this statement that the responsibility for their disappearance rests upon the Chinese.

Professor Watson adds : ' You might perhaps in any Note point out that the whole discovery and publication of the " Peking Skulls " was done at vast expense by the Rockefeller Trustees ; and that not a single American scientist had any part in it. The men were Canadian, French, Austrian, German, Swedish and Chinese ! '

I wish to thank both Professor Watson and Dr Kenneth Oakley, of the British Museum (Natural History) for their help in compiling this account which they have both read in proof and passed.

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New China News Agency, 15 January 1952.
* *Natural History*, Vol. 56, No. 1 : January 1947 (von Koenigswald).
' New Light on Peking Man ', by Pei Wen-Chung. *China Reconstructs*, July-August 1954, 33–6. Merely repeats the allegations of the *News Agency*.
A detailed account of the disappearance of the skulls and of the post-war search for them is given in Ruth Moore's ' Man, Time and Fossils ' (Cape, 1954), 255–8.

O.G.S.C.

ADEN PICTURES (PLATES X and XI)

The Lahej plain, the area occupied by the 'Abdali Sultanate, immediately to the north of Aden Colony, is a region where the prevailing building material is sun-baked brick. This local material sharply differentiates it from the prevailing stone architecture of the Western Aden Protectorate towards the Yemen border, and links it in this respect with the architecture of the Hadhramaut, although lacking the scale and magnificence of the latter. This use of brick is an ancient tradition. It can be seen in ruined structures in the medieval glass factory and site at Qawd Am Seila, and was undoubtedly used in the more ancient sites of Subar, Fiyush and elsewhere in the Lahej plain which may well

date back to the Iron Age or at anyrate the Pre-Islamic period. As brick was limited in decorative use, resource was made to the most obvious material to hand, a plaster-wash painted in patterns on the outside walls of the houses. Today only modern examples survive as a heavy shower of rain is enough to wash the decoration away and necessitate repainting. The examples illustrated are all from the village of Al Waht some fifteen miles to the north of Aden. These are particularly fine examples, but Lahej itself and other towns and villages in the region contain painted houses.

The subject matter is extremely original. Apart from geometric and floral decoration the artist indulges in all kinds of fantasies as well as aircraft, radio sets, kettles, coffee-pots, ' diabolo men ' and windmills. The latter are the kind with multiple sails used in the Aden salt-works and which work on the Archimedes Screw principle. The lion is the most popular of animals. Amongst the musical instruments are the lute ('Ud) and the Kemanjeh.

On one of the walls a mansion is depicted (PLATE X, A). Its owner approaches in a flagged car while overhead a fish-shaped aircraft is circling, perhaps preparing to land on the nearby air-strip at Khormaksar ! The mansion is not unlike some of the more elaborate houses in Waht itself, several of which have the lion or lions on the roof as a decorative feature. Is this feature only decorative ? The local reply is ' Yes ' or ' It is a symbol of courage '. One wonders whether it can be traced back to more ancient South Arabian tradition, to the fabulous palace of Ghumdan in Sana'a where, according to Muhammad Ibn Khalid . . . ' when the master of Ghumdan erected his palace and only the topmost chamber was still unfinished, he covered it over with a ceiling made of one slab of marble. The master of Ghumdan was in the habit of lying on his bed in this room, and, from this position underneath the slab, could tell the crow from the stork whenever the one or the other flew over the palace. On each of its four corners was a copper statue of a lion. These statues were hollow, so that whenever the wind blew through them, a voice similar to the actual roaring of lions would be heard '. The lion is frequently depicted in Himyaritic carving. Today the people of Waht would never see a lion save perhaps that formerly owned by the Sultan of Lahej or crudely carved on buildings in Aden.

This wall painting tradition is found in widely scattered areas of the Middle East. The house of the Haj in many an Egyptian village has scenes of the pilgrimage painted on the walls including an occasional railway-train. At Waht influences can be traced to tattoo motifs, textile patterns, rug designs, local painted pottery and even patterns on medieval glazed wares. From appearances the floral, the decorative and perhaps the lion motifs are the oldest.

Waht is a mixed village, part Hadhrami, part 'Abdali. This Hadhrami element may have exerted an influence on the local style. There are a number of village artists and the decoration has spread to the local School as well as private houses. Women-folk also take their share in decorating the interiors of the houses. The designs are first traced in outline in pencil or charcoal or similar material, the plaster wash being filled in later. After rain or heavy weathering further coats are applied or new designs painted.

In the brick region of the Aden coastal plain and adjoining areas such decoration and house Architecture is purely temporary and is never likely to survive. In view of this the relative antiquity of this kind of decoration can only be guessed but the probability is, like so much local tradition, that it is a very ancient one and is not averse to keeping abreast with the times. Now an Oil Refinery is arising at nearby Little Aden one may expect to see even stranger scenes appearing on the walls of Waht's houses.

HARRY NORRIS and HUGH SEYMOUR.

Reviews

ARCHAEOLOGY FROM THE EARTH. *By* Sir Mortimer Wheeler. *Oxford, Clarendon Press,* 1954. 25*s. net.*

At a time when much is being written about the more glamorous branches of archaeology, it is good to be reminded of the fundamental importance of that older form of the discipline which is characterized by the use of the pick. Among the treatises that have appeared on the subject in recent years the present study is outstanding by reason of its author's wide experience, his brilliant writing and the emphasis which he puts on the ultimate ends of archaeology as well as on its technique. Based on the Rhind Lectures of 1951, the book retains much of the personal quality and the freshness of oral presentation.

A lively sketch of the history of archaeological exploration precedes chapters on chronology and stratigraphy and on various technical matters such as methods to be used in excavating individual structures, town-sites and tombs. There follows a chapter, a particularly valuable one, on the composition and duties of the staff of an expedition. Other chapters are devoted to mechanical equipment, photography and to the presentation of the results. The concluding chapter is a highly personal reverie on objectives.

One misses all reference to the treatment of the site after excavation, a matter which surely is of equal importance with publication and one on which a British archaeologist could speak with particular authority.

Sir Mortimer's views are derived largely from his own experience on many sites in Wales, England, France and India. The classical lands proper are left strictly alone. The practitioner who works on classical sites may nevertheless profit from the book, particularly from the sections on technical methods and recording. It is a fact that technique has lagged in Greece and Italy, partly, no doubt, because their more substantial buildings can be recovered with less technical skill than is required for structures of wattle and daub, partly too because the attention of the classical archaeologist has been largely absorbed by a wealth of sculpture, fine pottery and inscriptions which are easily found and readily appreciated. If the classical lands are passed over in silence, the archaeological fate of Palestine is lamented in more than one sombre passage.

The author's experience has been wide not only in the geographical sense. He has participated at first hand in every department of the excavator's multifarious life as evidenced by innumerable observations of detail which ring very true : on the proper handling of a pick, on the wisdom of consulting with one's workmen, however illiterate, or on taking photographs of outdoor subjects ' in the fleeting moments between first light and sunrise ' in order to avoid deep shadows.

The sections on technique afford a good picture of contemporary British practice. Much stress is put on the grid system in laying out an excavation and on digging by squares. Although the wisdom of the principle is incontestable, one may ask whether the rigid application of this elaborate system may not often be quite unnecessary and may not at times actually hinder the understanding of an area, particularly if it contains substantial buildings, unless the mechanical procedure be accompanied, as it undoubtedly has been in the case of the author, by a natural flair for the relationship of structures and strata. Far more good archaeologists have been born than made.

But no one could question the universal applicability of what Sir Mortimer has to say about publication and publicity. Here he is merely stating in general terms what he has been practising for thirty years ; in the matter of informative sections, carefully considered photography, ' conciseness, clarity and ready accessibility ' in excavation reports. There are, moreover, many other archaeological areas which could profit from such strategic planning as was put into effect by Sir Mortimer during his four years as Director-General of Archaeology in India when ' three seasons of carefully planned, progressive work were able to draw a clear archaeological datum-line across many hundreds of miles of a sub-continent, and to open up spacious new vistas of cultural relationship '. The dramatic development of this great programme is outlined in a chapter on Tactics and Strategy.

At the beginning and end of his book, and occasionally in the middle, the writer urges his colleagues not to be obsessed by the mechanics of their profession to the point of forgetting that their proper business is to find out how men have lived, felt and thought. Such aspects of the matter have been referred to by another distinguished member of the guild as ' the humanistic value of archaeology '.

The format is a model for archaeological publication : good illustrations well engraved, a pleasing page, a select bibliography and an index.

The layman will enjoy the book as a brilliant picture of the present status of archaeology. If its lessons are taken seriously by the professional, standards in the field will be appreciably raised. HOMER A. THOMPSON.

THE ATHENIAN AGORA. Volume I. Portrait Sculpture. *By* EVELYN B. HARRISON, XIV + 114 *pages, and* 49 *plates. The American School of Classical Studies at Athens, Princeton,* 1953. 6 dollars.

This volume is noteworthy for three reasons. First, for the history of sculpture of the Roman period in Greece it presents for the first time a fairly large body of material from a controlled excavation offering dating evidence which is not merely stylistic. Secondly for the history of Roman portrait sculpture in particular it makes possible a more accurate assessment of its relation to contemporary portraiture in Greece, particularly in view of the fact that most of the known sculptors of Roman works bore Greek names. In a concluding essay Miss Harrison reviews this problem characterizing the fundamental differences between the Athenian and Roman portrait styles, and demonstrating the way in which Athens always lagged a little behind Rome both in its periods of realism and even in its periods of classicism. This is proved true for times in which a survival of Greek ' plasticity ' unparalleled in contemporary western work was once postulated. A number of portrait heads recovered from the fill of the Valerian Wall, part of which runs through the Agora, had been dated to the period of Constantine and held to illustrate such a survival. The back-dating by the excavators of the construction of the Wall from the 15th century to around A.D. 280 has finally placed these heads in their correct context. The 64 pieces are described fully with both sympathy and moderation in epithets ; the plates are good and a plan of the Agora is appended as a guide to the find-places which are individually recorded.

Finally, the appearance of *Agora*, Vol. I, is itself an event of exceptional importance and promise for classical archaeology. No site better than the market-place of ancient Athens could be found to grace the union of modern digging technique with *literae humaniores*. No excavation in Greek lands has been better served by the progress reports and the preliminary publications which the new volumes will supplement and

summarise, and none has ordered and offered its material for the inspection and instruction of scholars more generously. There can be no fear that the final publication, now initiated, will not do justice both to this tradition and to the importance of the material it will present. JOHN BOARDMAN.

KULTURA NASELENIYA GORNOGO ALTAYA V SKIFSKOE VREMYA*. *By* S. I. RUDENKO, *pp.* 402 + 120 *plates* (31 *in colour*). *Izd. Akademii Nauk, Moscow-Leningrad*, 1953. *R* 30.65.

The Altai ranges, between the U.S.S.R. and the Mongolian National Republic, are rich in gold, copper and even tin ; their southern slopes, despite the extremely severe climate provide rich pastures. On them the flocks and herds of relatively settled pastoral tribes waxed fat long before the advent of the Turks. These tribes' princes were buried with barbaric splendour under imposing barrows which, like the royal tombs of Old Kingdom Egypt, Mycenaean Greece and Bronze Age Eire, were promptly violated by robbers who luckily removed only gold and similar valuables leaving to modern excavators rarer treasures. Last century Tsarist antiquaries examined a few barrows more scientifically but without adequate publication, and some of the finds together with older loot found their way into the treasury of the Hermitage. It was only after the October Revolution that anything like a systematic exploration of this inaccessible and forbidding region was begun. The most sensational results were achieved near Pazyryk by Rudenko who examined five great barrows each surrounded by a cluster of smaller tumuli. Barrow 1 was excavated by him in 1929, and the startling finds from it dazzled the eyes of members of the International Congress of Iranian Art and Archaeology in 1935. In 1953 I had the privilege of seeing the relics from barrow 5, the last to be excavated, in the Hermitage as they were being prepared for display. Short accounts of all the excavations have appeared in Russian, of barrow 2 also in German while Barnett and Watson summarized the preliminary report on barrow 5 in the *Illustrated London News*.

The present volume is a full report on all five large barrows and the small barrow 6 in the fifth group, accompanied by adequate plans and sections of each barrow and of the grave-shafts under them and illustrated by superb coloured plates, excellent half-tone plates and numerous text figures. After seeing the originals, I can say that the plates reproduce admirably and without any exaggeration the colours of the carpets, the dyed felt appliques, the painted leather as well as the carpet's texture. Each large barrow consisted of an outer cairn, some 50 m. in diameter, mantling an earthen mound which covered a central shaft some 7 m. square and 4 m. deep. On the floor of the shaft was erected (or re-erected—for the mortuary chambers were pre-fabricated and the logs bear numbers indicative of their positions) a double cist of logs while to the north of it were buried several horses, a wooden trolley and, in barrow 5 only, a hearse mounted on four wheels, 1.5 m. in diameter with 34 spokes and slightly dished. The peculiar significance of the Pazyryk burials lies, however, in the curious chance that water, percolating into the shafts, froze and never melted so that tattooed human flesh, hair, undigested food in stomachs, wood, leather, felt, wool, silk and other materials normally lost to the archaeological record and happily despised by robbers, have been preserved literally on ice.

Naturally such finds provide unexpectedly detailed information on the economy, technology, art and ideology of the pastoral tribes of the Altai—nay of the whole steppe zone of Upper Eurasia. For instance the hemp-smoking apparatus from barrow 5 is an

* The Culture of the Population of the High Altai in Scythian Times.

exact and concrete illustration of Herodotus' account of the habits of the Pontic Scyths. Embroidered silks and a mirror, imported from China, a Persian carpet, coriander seeds and Iranian decorative patterns document contacts with the southeast and with the southwest, while the animal figures and the treatment of the themes illustrate inspiration from the old naturalistic art of the circumpolar tundra. Indeed the relics from Pazyryk reveal how in the heart of Eurasia elements from the more advanced civilizations to the southeast and southwest were blended harmoniously with autochthonous and boreal traditions to form an original and lively culture, such as I saw being reborn from a different blend in the Tadjik and Uzbek S.S.Rs 2300 years later ; for that is about the age of the Pazyryk barrows. In none is there a trace of Hellenistic influence. The carpet from 5 is accepted by Barnett, as by Rudenko, as Achaemenid ; the Tsin mirror from 6 could be 4th or 3rd century.

It should be noted that the detailed description of the high bred, well-groomed and stalled horses of ' golden-red ' colour by the zoologist, Bitt, has been published separately in *Sovietskaya Arkheologiya*, XVI, 1952. Similarly the remarkable ' hearse ' was still in course of reconstruction when I was in Leningrad and will be published subsequently.

V. GORDON CHILDE.

ART IN THE ICE AGE. *By* J. MARINGER *and* H.-G. BANDI. *Holbein Publishing Co. Ltd., Basel, translation by* ROBERT ALLEN, *published by Geo. Allen and Unwin Ltd., London*, 1953. *pp.* 167, *maps, diagram and numerous illustrations. Price*, 45*s*.

This is not just another book on prehistoric art. Planned by the great Obermaier and published as a tribute to his memory, it is a masterpiece of clear and accurate statement, magnificent illustration and fine printing.

After an introductory chapter on the Ice Age environment in which the art developed and flourished, chapters follow on the Aurignacian and Magdalenian art, Eastern Spanish art and Arctic art. Each chapter deals faithfully with the sites and the history of their discovery as well as with the techniques, content and chronology of the art itself. The whole field is very adequately covered except for the omission of the painted pebbles from Mas d'Azil which Breuil and Obermaier have shown to be related to the geometrically conventionalized rock paintings of Spain. The omission can be excused on the grounds that the epipalaeolithic Azilio-Tardenoisian is post-Ice Age and therefore beyond the scope of the book ; but it is a pity that the authors did not interpret their period a little more broadly. Chapter II on the Art of the Ice Age covers 97 pages and could with advantage have been more clearly subdivided—the sections on Beginning and Evolution, Art Schools and Motivation which follow the factual historical and descriptive sections might well have formed a separate sub-chapter, which would have improved ease of reference.

Our appreciation of this book is such as to blunt criticism, but the generalization on page 99 regarding the origin of prehistoric art cannot go unchallenged. We read that ' the birthplace of ice-age art is located in Western Europe. . . . There man first became an artist and creator, the creator of the new culture of the Aurignacian period '. Here the authors not only ignore their own reference to Solutrean art (p. 44) but are guilty of a more serious omission. No less an authority than the Abbé Breuil agrees that the earliest art in South Africa is at least as old as the oldest in Europe. The magico-religious motivations which the authors accept, based as they are on universal primitive emotions, are as likely to have operated in South Africa as in Europe. In the absence of relative chronological evidence, the claim that man first became an artist in Spain and South-western France has as much or as little foundation as a similar claim for South Africa.

Until such evidence is forthcoming it behoves us to keep an open mind and avoid categorical statements.

The chapter on Arctic art is a model of clarity and a most useful and fully-illustrated summary of the subject. It is, however, a pity that it was found necessary to chalk many of the figures for purposes of photography.* No copyist can divest himself completely of his own artistic capacities and the chalking of outlines, though widely practised, reduces the objectiveness of the reproduction. When engravings cannot be photographed in their natural state, rubbings are preferable and indeed often reflect lines which are invisible on the original. Line drawings made from rubbings again introduce a personal factor and are open to the same objections as the chalking of the original outlines.

The excellent and numerous illustrations are well chosen and beautifully reproduced; they do far more than illustrate the text. They are a delight to those who know the originals and an education in themselves to those who do not. No less than twenty-one finely printed coloured photographs from Lascaux, Cabreret, Niaux and Altamira enliven the pages. Each illustration is fully captioned, the scale is given and the sources conscientiously acknowledged, and together they form a compendium of prehistoric art which could hardly have been bettered within reasonable limits of space and price. The endplates provide a clear site map, and a good chronological table is included.

The English translation is printed in the Netherlands, so a few printer's errors can readily be forgiven. The translation is good, though one notices ' glacerization ' for ' glaciation ' on page 10. The prehistorian, the art-lover and the bookman will equally welcome this book. With this and Breuil's *Four Hundred Centuries of Cave Art* the non-specialist will have all he needs, though neither work can replace the more detailed specialist publications on individual sites which full study requires. B. D. Malan.

THE STONE AGE IN SCOTLAND. *By* A. D. Lacaille. *London, Geoffrey Cumberlege, Oxford University Press*, 1954. *Publication of the Wellcome Historical Medical Museum, New Series, no.* 6. 316 *pp.*, 9 *plates*, 140 *text figures*. 55*s*.

Interest in the Mesolithic peoples of Northern Europe and Britain has been stimulated largely by the works of Professor Grahame Clark, and of Northern Ireland by Professor Hallam Movius. Mr Lacaille has now done a similar service for Scotland. His book summarizes his own researches, as well as those of earlier students, and includes his interpretations of collections in museums and in private hands. For the first time a clear picture is obtained of the pioneers who penetrated Scotland after the final retreat of the ice. A detailed study of climatic changes, supported by pollen analysis and varve counts, enables events in Scotland to be linked up with those of the Baltic area and a firm chronology to be established. It is also possible to appreciate the ecology of inland hunters and coastal strandloopers and to trace their movements.

The industries of the first settlers in southwestern Scotland show Creswellian ancestry. In Boreal times, these late Upper Palaeolithic people migrated from the area of the Pennines to Northern Ireland over partial land connections, and there founded the Larnian culture. That the Early Larnian reached Scotland is proved by industries from the Early Post-Glacial raised beach in Argyll and Ayrshire, near Campbeltown Loch and Ballantrae. The first men to set foot in Scotland came then, not as one might suppose directly from northern England, but from across the North Channel, during the onset of the Atlantic climatic phase. Somewhat later, Creswellian elements (influenced by the microlithic Tardenoisian culture of Flanders) penetrated northwards from the

* We endorse this criticism. Ed.

Pennines to the Tweed valley, where they were reinforced by Maglemosian forms from the Baltic area. This hybrid culture seems to have spread westwards over the Biggar Gap and met the already established culture of fishers and shell-fish collectors, resulting in an advanced Larnian industry found at Albyn Distillery, Campbeltown.

Additional evidence of Baltic influence is found in implements of red-deer antler in carse-clays near Stirling. The Obanian culture, confined to remote sites in Argyll and the islands of Oronsay and Risga, is regarded as a regional development of the Larnian, but is also strongly influenced by Baltic traditions. This culture may be of full Sub-Boreal age (after 1500 B.C.) and is probably contemporary with Epimesolithic industries in south western Scotland, which again arrived from Northern Ireland.

At about this time, the first waves of Megalithic and Beaker invaders reached Scotland. But Mesolithic traditions, with a strong microlithic element, persisted for a long time in many areas, notably along the coastal sand dunes. As in Britain generally, the true Neolithic was restricted and short-lived ; local Scottish industries reflect the impact of a metal culture in a fairly advanced form.

Mr Lacaille admits that much remains to be done. ' If, in the future, investigations are carried out with the same thoroughness which has marked researches in north-eastern Ireland, closer correlations may be established between the two regions than is now possible ', he says. He also points out that Scotland provides unrivalled scope for the application of pollen analysis : ' It is confidently expected that, when investigations are extended, the pollen sequence will be narrowed into zones as in Denmark and parts of England and Ireland '.

A few may grumble at having to read nearly half the book (138 pages) before getting down to the Stone Age of Scotland at all ; but most workers will be grateful for the detailed treatment of the period of deglaciation and its chronology which makes an indispensable background to the story of man in Scotland. The book is beautifully produced, copiously illustrated, and contains many useful maps and tables, a bibliography and an index. The text is admirably clear, and the sub-headings to each chapter make for easy reading. SONIA COLE.

THE ARAB CITY OF GEDI : Excavations at the Great Mosque : Architecture and Finds. *By* J. S. KIRKMAN. *Oxford University Press* (*Geoffrey Cumberlege*), *London*, 1954, XV+197 *pages*, 39 *text figures*, 4 *plates*. *Price*, £1 10*s*.

The needs and shortcomings of Central African archaeology—the lack of excavated sequences, the inadequacy of Ancient Monuments regulations, the destructiveness of Government departments—have recently been chronicled in this journal (XXVII, 212). It is a pleasure, by contrast, to record here a positive achievement : the publication of J. S. Kirkman's excavations at the Jamia or Great Mosque at Gedi in Kenya. Gedi itself forms part of the Royal National Parks of Kenya. The excavation of the town including the Jamia was undertaken by the Trustees of the Parks, and directed by Mr Kirkman as Warden of Coastal Historical Sites. Trustees and Warden are alike to be congratulated for undertaking so rewarding a piece of research, and for publishing it so exhaustively.

The Jamia of Gedi was found to have been established *c.* A.D. 1450, and to have been rebuilt or altered twice before both town and mosque were abandoned in the 17th century. Beneath it lay a large building, possibly a dwelling-house, and occupation levels going back to the town's foundation in the 12th century A.D. From the pre-mosque levels, from burials around the mosque and from the make-up of its successive floors came a rich pottery series, together with beads, glass and other small objects. Much of the

pottery is local earthenware, hand-modelled cooking-pots, bowls and jars, which may provide a basis for the tribal archaeology of East Africa. Some of it suggests connections with Zimbabwe, but much of it betrays the influence of Arab traders along the African coast. Their activities are more surely revealed, however, by the import of Chinese celadons and other porcelains, of Islamic glazed earthenware and glass from the Middle East, and even of Portuguese majolica.

The stratigraphy of the site is presented in the greatest detail. A group of charts showing the relationship of levels within each area is followed by layer-by-layer descriptions, interpretations, and tabulations of the finds. The very full descriptive catalogue of finds includes layer-charts for each class of pot or small object. Unfortunately, in this catalogue only the latest stratum is noted : it is indeed the earliest level, in which the introduction of a new type may provide a *terminus post quem*, which is the more important, for the latest occurrence may be merely as a ' rubbish survival '. Nevertheless, every occurrence of a given type can be tracked down in the strata list. Here, then is the raw material of cultural history, rough hewn and ready for the ceramic specialist.

The illustrations to this account are, however, sadly inadequate. The plans, sections and architectural details are all on far too small a scale, the town plan of Gedi itself for instance at one inch to 320 feet, and the three periods of the mosque at one inch to 32 or even 64 feet. The sections are at best of the type stigmatized by Wheeler as ' undifferentiated ' ; some are, to this reviewer, quite unintelligible. The pottery drawings, at 1 : 3 for sherds and 1 : 6 for complete pots, do scant justice to the Islamic and still less to the Chinese wares. Many specialists on the latter seem unable to work with anything less than actual sherds to handle ; some, however, will pass verdicts on mere photographs, but they require a far higher standard of clarity than Plates III and IV here.

These criticisms may seem severe ; they are so because the reviewer realizes to the full the importance of this work, and only wishes it better presented. Mr Kirkman is a pioneer in unravelling the archaeology of a land and peoples for which we all must share responsibility. His excavation is not less important for the wider studies of Arab expansion and of the development of Islamic and Far Eastern ceramics. We look forward to future reports on Gedi, freed of the faults of their predecessor. LESLIE ALCOCK.

BARODA THROUGH THE AGES (being the report of an excavation conducted in the Baroda area 1951–1952), M.S. University Series No. 1. *By* BENDAPUDI SUBBARAO. *pp.* XIII+130, *plates* XXI, *figs.* 32. *Baroda*, 1953. *Rs.* 15.

More than twenty years ago Sir John Myres, in course of conversation, cocked a quizzical eye at me and said ' Is there any Indian Archaeology ' ? In reply to which I could only make vague protesting sounds. Asked the same question today I should answer without hesitation ' There certainly is '. Further I should like to ' praise the Vertical Man ' and pay a tribute to Dr H. D. Sankalia, Sir Mortimer Wheeler and Prof. F. E. Zeuner, for these are the people who have made this change of answer possible. Dr Subbarao is fortunate enough to have studied with all three, and his report on the excavations at Baroda is proof of the value of those lessons.

He starts by putting his reader into the picture as regards the geographical and archaeological background of Gujerat and Kathiawad in general and the Baroda area in particular. There is a map of the general region, which should have a small inset map of India with its area marked and which is introduced rather late (p. 62), and also one of Baroda City ; one knows therefore exactly where one is, which is not always the case. A short review of previous work is followed by the aims of the dig and the reasons for

the choice of sites selected for excavation, these being the acquisition of a stratified sequence which would link up chronologically the scattered finds of antiquities made in the past and the production of a style sequence basis for a corpus of Gujerat pottery.

Dr Subbarao then summarises, his results, showing how his excavations have brought to light a sequence from Period I *c.* 1000 B.C., an early microlithic phase without pottery, down to Period V which brings one to *c.* A.D. 1600. The main features of the results are set out in an excellent 'Comparative chronological chart', which I understand is of the author's own devising. I have seen the same system applied to the far more complex results of the recent Maheshwar-Navda Toli excavations, and the clear picture it gives of the cultural sequence in all its material aspects is proof of first rate archaeological method.

A description of the excavations follows with a good sketch map. There are clear plates and sections, and though the majority of the numbered layers are referred to in the text, a thing less frequently done than one might imagine, there is little mention of soil changes and some of the differentiated layers would appear hard to justify. The photographs of the various sections have merits not always found ; they are clear and illustrate points of importance. The actual finds are then dealt with and from the section on pottery it is clear that one of the objects of the dig has been fulfilled, for there is a well illustrated corpus of 125 types with many subtypes, which should go far to place the study of western Indian wares on a sound basis. This section has an appendix on Red Polished Ware, characterised by jars with high necks and narrow apertured sprinklers having in some cases an air vent. In northern India such high necked jars are confined to the period A.D. 100–300 and are found in Kushan levels or those contemporary with them, and these polished red ware jars seem to have much the same dating.

Microliths were found in considerable numbers particularly in Trench IV, layer 13, mis-printed as 12 on p. 68, but it is difficult without seeing a fair bulk of the actual specimens to comment on any of the conclusions formed. Coins, beads, terracottas and other minor antiquities are all adequately dealt with and the report closes with an historical survey. In spite of slight blemishes, such as a discrepancy between Period I on the Chart and on the section of Trench I Akota, due no doubt to hesitation about the status of layers 8a and 9, and the showing through of pot sections due to the absorbant paper used, this report is clearer in many respects than a number I have read, and much credit is due to Dr Subbarao and, I am sure he will agree, to his teachers. D. H. GORDON.

KUSH : Journal of the Sudan Antiquities Service. *No.* 1. *Khartoum*, 1953. *Price*, 50 *Pt. or* 10*s per number.**

All surviving predecessors of the present Commissioner for Archaeology no doubt feel as much pleasure and pride as the reviewer in this latest production of the Sudan Antiquities Service, and will wish to congratulate Mr Shinnie and the Service of which they used to be in charge on the appearance and contents of *Kush* No. 1. Two of them, Crowfoot and Addison, contribute to it a paper on 'The Early Days', which tells how the Service started on sound if unpretentious lines, and how an embryo archaeological museum emerged.

Produced by the printers of ANTIQUITY, and in the same size and format, this first number consists of 88 pages, 18 excellent half-tone plates and numerous figures in the text. The first and longest article is by the indefatigable editor of ANTIQUITY and complementary to his *Castles and Churches in the Middle Nile Region*, recently published

* To be obtained also from Messrs Thornton, Booksellers, Broad Street, Oxford.

as Occasional Paper No. 2 of the Sudan Antiquities Service. Both papers record different aspects of an archaeological survey of the area between Atbara and Abu Hamed and several other areas, including part of the Bayuda Desert and Qoz Regeb ; both of the latter places the reviewer long wished to visit but could not find the requisite time. The aim of the expedition was to observe and record in words, plans and photographs the archaeology of the region as a guide to future workers. The article records 38 sites found, in addition to the Christian castles and churches described in the Occasional Paper.

It is perhaps ungracious to criticize a notable achievement, but if Mr Crawford had studied in the Khartoum Museum what is already known about the pottery of the Sudan, we should know whether his ' neolithic site ' at Qoz Regeb is the A Group site from which there are in the museum numerous sherds collected by Mr P. J. Sandison during the last war, or whether it is a new discovery. I suspect the former. And no confusion would have been caused by the report of pottery of ' Esh Shaheinab type ' from Shiqla and Ed Damer, whereas there is certainly none of this pottery on the Ed Damer site and I have not seen any from Shiqla. Also, with a little briefing from the Antiquities Service files or study of the *J.E.A.* article to which he refers, he would not have searched in vain for the Christian site at Kurgus but would have found it (and the foundations of an Ancient Egyptian fort, which he does not mention) on the river bank level with Hagar el Merwa itself. His guess that a site near Geteina was found because the steamer stopped there is not right. I found it when I was returning by road from the south and spent a short time looking for the site where the gazelle bowl was found. Despite all this the article is a very valuable one, and the advice with which it concludes is to be fully endorsed. There are certainly very many important archaeological sites in the Sudan still to be found for the looking.

Another article in this first number is one describing the discovery of Late Acheulean implements at Esh Shaheinab during the excavation of the neolithic site there. Its chief importance is the light thrown on the relative age of some of the Quaternary gravels of the Nile Valley in this area. Then W. B. K. Shaw describes two groups of rock drawings from the desert in the north west corner of the Sudan. Another article describes the first excavation—in which one of the Sudanese members of the Antiquities Service took part—of one of the many large Meroitic mound graves which occur on the west bank of the White and main Niles near Khartoum. Then there is an important article in French by J. Leclant describing a small copper statuette and a bronze stamp with the cartouche of King Shabako of the Twenty-fifth Dynasty, both found in 1948 at Amentago on the Dongola Reach. The stamp is shown to have been used for marking bricks and not, as previously thought, for branding animals. Other Meroitic objects have been found at Amentago, including the foundations of a masonry building, probably a temple. It was probably in robbing the foundation walls of this building that the statuette and stamp were found. The site is one that should be protected until excavation is possible. There is also a note, with illustrations, by Mr Shinnie on two hitherto unpublished Meroitic statues at Naga. The number concludes with an article by Derek H. Matthews on the houses of the Arab town of Suakin, now unfortunately but inevitably falling into ruin. It is illustrated by 51 sketches which form a valuable record of 9 houses, 4 mosques, 13 meshrabiyeh windows and the various styles of grille used for the ventilation of those windows.

The next number promises articles on the palaces of Darfur and Wadai, four Khartoum stelae, Christian monuments from Nubia, surface finds from sites in Agordat related to the C Group and Pan-grave, early Arab tombstones from Khor Nubt, and the excavation of some X Group graves at Tangāsi.

The fiftieth anniversary of the Antiquities Service, in which this fine first number of *Kush* appears, is, as stated in the Editorial Notes, a year of great significance for the Sudan, being one in which the first steps towards independence have been taken. Mr Shinnie has set the Service a high standard for its journal. But, as he points out, it will need the support and co-operation of the Sudanese themselves to maintain such a standard. If enough of them have both pride in their own past and a devoted love of truth, it should be possible, and the Sudan will then continue to give the world a journal making a real contribution to the archaeology and history of Africa. As such, this first number is strongly recommended. It is to be hoped that it will find among archaeologists and others the support it deserves. A. J. ARKELL.

THE PRIMITIVE CITY OF TIMBUCTOO. *By* HORACE MINER. *The American Philosophical Society, Princeton University Press*, 1953, 297 *pp.* $5.00.

In this agreeably printed book, illustrated with a few photographs, the author, a sociologist, gives a monograph on this famous ancient trade centre situated at the junction of the Niger River and the Sahara Desert.

Since its foundation about 1100 as a seasonal Tuareg camp, it remained down to the arrival of the French in 1893, the chief market of barter of gold and slaves from the South against salt and European and North African goods, of all Central West Africa. Its periods of great prosperity were during the Mandingo rule (1325–1433) and Songhoi rule (1468–1591).

This city was chosen by H. Miner because it provided an excellent field for sociological research ; practically untouched by Western civilisation, it is inhabited by three principal groups : Arabo-Berbers, Bela—the former slaves of the Tuareg, who have not practically been studied before—and Songhoi, an African tribe living along the Niger river from Timbuctoo down to Niamey.

The material for this book has been gathered during 7 months of residence in 1940. He studied the three groups of populations, the city quarters with their different ethnic concentrations, the elementary economics (currency and exchange, prices, guilds, production and trade), Islam, beliefs in sorcery, genii, vampires and fetishes, the feasts, kinship and the family, the life of individuals (birth, circumcision, mating, death, crime and disease, work, play, etc. . . .

Everything has been well observed and has been clearly recorded so that this book is full of interest for the specialist and will be enjoyed also by the general public.

Let us add that recently new light has been thrown on Timbuctoo and the Songhoi by several works of R. P. Prost, J. Rouch, E. Paris and R. Mauny, published in different books and papers of the Institut Français d'Afrique Noire in Dakar (French West Africa). R. A. MAUNY.

PLOUGH AND PASTURE. *By* E. CECIL CURWEN *and* GUDMUND HATT. *Henry Schuman, New York*, 1953. 329 *pp.*, XIV *plates and* 25 *figs.*

The title of this joint work is a little confusing, as Dr Curwen's part of the book was originally published in England under the same title as this double volume in 1946, and is here reprinted almost without modification. He is concerned mainly with British agriculture in the prehistoric and early historic past, set against a briefly-sketched background of Europe and Western Asia. One could wish for a more detailed treatment both of stockbreeding and of corn-growing, using for instance the rich material from Switzerland assembled by Neuweiler and others, and in the discussion of Early Iron Age

and Romano-British farming in Britain C. E. Stevens's stimulating chapter of the *Cambridge Economic History* might surely have been commented upon. A note on Jarmo has been inserted, but there is no mention of Coon's evidence from the Belt Cave on early domestication of animals.

Professor Hatt's contribution is a masterly survey of the Farming of non-European Peoples, presented with authority and clarity. He is fascinating on the subject of Chinese manure, and his treatment of maize cultivation in the New World helps to sort out a very tangled skein.

Both authors comment on fermented liquors such as beer in connection with grain crops, though Curwen does not discuss the relationship of the wine-making and beer-brewing areas of Europe established at least by the Early Iron Age, with the barley brew of *cerevisia* and the wheat brew of *celia* or *ceria*. And it is since the publication of their book that Braidwood has raised the crucial question, Did Man once live by Beer Alone? (*Amer. Anthrop.* LV (1953), 515)! STUART PIGGOTT.

TEACH YOURSELF ARCHAEOLOGY. *By* S. GRAHAM BRADE-BIRKS. *English Universities Press Ltd., London*, 1953. 220 *pp.*, 120 *text-figs.* 6*s.*

Archaeology in this book is British, and on the whole Southern English; archaeology from flint implements to brass-rubbing. There are no difficulties for the enthusiastic amateur, whether he is saying 'Let's Have a Dig!' (p. 19), or 'We Want to Read Manuscripts' (p. 168). The author dislikes 'the clever people who know all the answers', for 'archaeology is for everybody' (p. 18), and the resultant book is just what might be expected in these circumstances.

It is regrettable that a responsible publishing firm with a number of excellent technical manuals and language handbooks to its credit in this series should not have selected a more suitable author for the volume under consideration. STUART PIGGOTT.

QUINTUS VERANIUS CONSUL A.D. 49: a study based upon his recently identified sepulchral inscription, *By* ARTHUR E. GORDON. *University of California Publications in Classical Archaeology, Vol.* 2, *No.* 5, *pp.* VIII+231–352, *plates* 7–13. *University of California Press, Berkeley and Los Angeles*, 1952. $1.75.

For most of us there is a singular interest in the discovery of an inscription or other record which refers to someone who has been momentarily spot-lighted by a casual reference in a famous writer, though otherwise little more than a name or a subordinate figure in great events. Supported by a draught of factual life-blood the dim figure, like an Homeric shade, resumes some fleshly substance.

Two such figures have emerged from the shadows in recent times in the history of Roman Britain. The second half of the inscription from the monumental tomb of Julius Classicianus, whose humane policy after the events of A.D. 61 prompted Collingwood to describe him as the 'real hero' of Boudicca's revolt, came to light in 1935, built into the Roman Wall, and established the identification of the earlier portion discovered some eighty years earlier. Now in this admirable monograph Mr A. E. Gordon, aided by his wife, publishes the sepulchral inscription of Quintus Veranius, the predecessor in office as Governor of Britain of Suetonius Paulinus, who crushed the rebellion. Before the discovery of this inscription Veranius was known from scattered references, particularly from the comment of Tacitus, who, in recording his death during his governorship of Britain, notes in his detracting manner, that during his lifetime he had a great reputation for a strict integrity (*severitas*), but revealed a vainglorious spirit in his will by stating that, had he lived for the next two years, he would have conquered the province for the

Emperor. His daughter, Verania Gemina, was the wife of the unfortunate Piso, who was adopted by Galba and murdered with him five days later in A.D. 69. She lived until the end of the century and Pliny the Younger in a well-known letter tells how she was pestered by the legacy hunter Regulus. Her name was added to the tombstone of her husband Piso, which is still extant in Rome.

These associations and the other known facts are recorded and critically examined by Mr Gordon, who clears up the confusion often made between this Veranius and an older one, almost certainly his father, who accompanied Germanicus to Asia and as his legate organised the province of Cappadocia.

The large but incomplete inscription which is here successfully identified is cut in a marble slab attached to a wall in the garden of the Museo Nazionale Romano in Rome. It reached the Museum in 1928, having been found in October 1926 at Pratolongo off the Via Tiburtina, and has not apparently been previously published.

Mr Gordon and his wife have worked on the inscription for a year and have produced a very thorough and scholarly study of it. Of the thirteen existing incomplete lines they offer very convincing restorations, based on calculations of the number of letters missing, such facts as are known to us, and an exhaustive study of inscriptional forms and practice. In some lines they offer an alternative text, according to a more ' warlike ' or a more ' peaceful ' interpretation of the words DIR]VTIONEM MOENIVM REMISSAM ET INTERCEPTAM, or RESTIT]VTIONEM MOENIVM, etc. In an apparatus to the reconstructed text all the possibilities previously discussed are recorded with references to the earlier paragraphs.

Mr Gordon offers a purely conjectural restoration of nine lines preceding the extant portion assuming that they recorded Veranius' name, filiation, tribe, offices and honours. For this of course he claims no authority and offers it as hardly more than an exercise. Nevertheless it probably approximates to the original.

Questions arising from the interpretation of the text led the author to two investigations the results of which appear in appendixes. The first comprises a list of all the superintendents of temples and public works known to us, their titles, duties and the relation of their tenure to other offices held, particularly the consulship. The second includes all the men known to have received triumphal honours and statues from the time of Augustus to the end of Hadrian's reign with some additions of later date. The lists contain many valuable critical comments and the author is to be congratulated on an excellent piece of work.

G. F. FORSEY.

FOUILLES DE VIRAMPATNAM-ARIKAMEDU. *By* J. M. CASAL. *Paris*, 1949. *Publication de la Commission des Fouilles Archéologiques. Imprimerie Nationale.* 1200 *francs.*

The site of Arikamedu, as it was first known to English readers through Sir Mortimer Wheeler's article in *Ancient India* for 1946, or Virampatnam-Arikamedu as the French now prefer to call it, lies just over two miles south of Pondicherry and on the right bank of a river less than a mile from the Bay of Bengal. It was discovered in 1937 by Professor Jouveau-Dubreuil of Pondicherry who recognised surface finds and traces of construction and declared ' nous avons là une véritable ville romaine '. Excavations were commenced in 1941 by two Frenchmen, Brother Facheux and Surleau, Chef des Travaux Publics ; and in that year Ayappan claimed the site as ' the Taxila of the South '. Facheux's report was published in 1945, and later that year Sir Mortimer Wheeler excavated the site. Following this the French Commission de Fouilles decided on further excavations ; these took place in 1947-8 under the direction of J. M. Casal, assisted by his wife. The present book records well and clearly the 1947–8 excavations by the Casals.

The Facheux-Surleau excavations ignored stratification and no accurate plan was prepared. Wheeler's 1945 excavations, carried out 'avec toute la précision d'une méthode stratigraphique rigoureuse, allaient permettre à la fois l'établissement d'une séquence dans les différentes occupations du site et celui d'une chronologie absolue' to quote Casal. Wheeler established that Arikamedu was an ancient trading port with warehouses and with tanks for dyeing muslin; he thought this Roman factory had come into existence early in the 1st century A.D.—before A.D. 41, the date allowed by Pliny for the knowledge and use of the monsoon by Roman sailors. Arikamedu was dated by imported Arretine ware and this ware, occurring with native Indian wares, provided, for the first time, a firm datum-line from which the classification of pre-medieval South Indian cultures could begin.

The 1947–8 Casal excavations employed 'la même méthode rigoreuse d'étude stratigraphique' and indeed so novel and impressive does the Wheeler technique seem to have been that this present report has an appendix on stratigraphical observation in archaeology !! These new excavations included fresh areas and the extensions of the sections down into new occupation levels on virgin ground beneath the Roman occupation recorded in Wheeler's excavations. These pre-Roman levels were characterised by pottery similar to that found in the megalithic tombs of Brahmagiri and in urnfields near Pondicherry. Casal dates this native black rouletted ware, by the thickness of the accumulated deposits to the 2nd century B.C. and sees a native fishing village on the site from then to the first quarter of the 1st century A.D. The native Indian fishing village was then replaced by the Roman trading station which may be the Podoukè of the Periplus of the Erythrean Sea and of Ptolemy and this word Casal derives from the Tamil words for new town.

The dating of this native ware at Arikamedu has given further exactness to the chronology of native cultures on the Deccan. Casal speculates whether his excavations will not also one day be useful in dating the megaliths of Western and West Mediterranean Europe, but the similarities between the Deccan megaliths and those of Brittany and Denmark are not so close as he or Wheeler and Childe make out. The real importance of Arikamedu is its dating of native south Indian cultures and its revelation of an accurately dated Roman treaty port and the archaeological materialisation of the Yavanas. This was Wheeler's achievement. GLYN E. DANIEL.

THE CHURCH OF ST. MARTIN AT ANGERS. *By* G. H. FORSYTH, JR. *Princeton University Press* (*London : Geoffrey Cumberlege*), 1953, *text* (267 *pages*, 229 *figs.*) *and atlas of plates.* 280*s.*

The church of St. Martin at Angers is not one of the better known buildings of France. Closed in by later buildings, the arcade of its nave situated in a private garden, it can easily escape the notice of a visitor, however diligent. In archaeological circles it had a period of controversial renown, but since De Lasteyrie's *Architecture réligieuse à l'époque romane* appeared in 1911, it has been generally accepted that the nave is the work of Fulk Nerra (987–1040) and that there were some remains of even earlier work. Now Mr G. H. Forsyth, backed by the Department of Art and Archaeology in Princeton University, has produced an excedingly detailed and costly monograph upon it, with all the lavish care, wealth of documentation and extensive apparatus of plates and diagrams, which are sometimes expended on classical or earlier sites, but are more rarely available for medieval researches.

The appearance of such a work on an interesting but secondary monument is in itself a matter deserving some consideration. The actual chronology of St. Martin's could be

established at much less length and in a much simpler format. It is very clearly set out by Mr Forsyth, and the excellent indices make the book easily usable, but for most purposes this information would be more valuably conveyed in a volume of much more modest price. It is not, however, the dating of a series of buildings that is Mr Forsyth's real purpose. On many of the pages the text fills only the upper quarter and leaves the rest for double columns of notes. These range over many topics and include some important discussions, such as for instance those on box-type churches (p. 57), masonry and scaffolding (p. 113), and centering (p. 127). Comparative material ranges from the church of St. John at Ephesus to S. Saturnino at Cagliari. Careful scholarship and wide erudition are everywhere apparent, but whether the history of a single church provides the most convenient form in which to display the results of such profound studies must remain an open question. The book itself is an Imperial octavo ; the atlas of plates is $24\frac{1}{2} \times 19$ inches. They cannot therefore easily be shelved together, and must provide an unwelcome problem for most libraries. It is a publication in the grand manner, and requires for its study a spaciousness in time and place not now always easily available.

The earliest buildings on the site were Roman, and their exact purpose cannot now be determined. The remains however are related to a road and have served Mr Forsyth as the basis for a most ingenious and convincing discussion of the topography of Roman Angers, and the expansion and retrenchment of building operations that marked the period of Roman occupation. The Merovingian oratory, which may possibly be dated to the episcopacy of St. Lupus *c.* 650–700, was of the box type, with the oblong sanctuary separated off by a partition with three arches, similar to the partitions known in several English examples, though there associated with an apsidal sanctuary. The reconstruction of the plan adds to the somewhat scanty data available for the study of this early stage of church architecture.

The 9th century saw the beginning of a building project which was to be carried forward, with breaks but with no radical change, till the completion of the church in the 11th century. About the year 1020 Fulk Nerra III and his wife, the Countess Hildegarde, endowed a body of thirteen canons for the church of St. Martin. This donation, one of the certain facts in the church's history, did not result in any immediate alteration of the building scheme, though there seems to have been a greater emphasis given to the nave and aisles, the basilican design, as opposed to the centralised design under a high tower, which latter is here associated with the commemorative elements of the *martyrium*. The 12th century brought some minor Romanesque additions, until in the second half of the century, with the lavish readiness for new fashions that characterises the period, the decision was taken to rebuild in the Gothic style. Of this last great undertaking only the new choir was carried out, which remains today as the most intact part of the building. Such in barest outline is the history of the building, but no summary could indicate the skill with which Mr Forsyth sets his story in the framework of medieval church architecture, and elicits from masonry, often extremely fragmentary, fresh information or confirmation of medieval building methods. Ornamental styles are of less interest to him : some striking 12th century capitals receive comparatively little notice : the five much damaged statues now in Yale University are the subject of a footnote, but the reader is referred, for their stylistic analysis, to an article by Marcel Aubert. The 14th century Virgin and Child is treated in an appendix by a collaborator, William Forsyth, who gives an important analysis of the paint layers on it.

In a lengthy book dealing with foundations and ruins much of necessity must be hypothetical. Here, however, the hypotheses are very firmly controlled and it is a pleasure to follow the exact and careful methods by which the conclusions are reached. But the

importance of the work lies in the richness of the comparative material, more than in the main theme, fascinating though that is in itself, and a careful perusal of it will provide, to almost any reader, much new information on the development of medieval architecture in North-West Europe. It is, as is to be expected from the Princeton Press, well printed and set out. T. S. R. Boase.

ARCHAEOLOGY AND THE RELIGION OF ISRAEL. *By* William Foxwell Albright. The Ayer Lectures of the Colgate-Rochester Divinity School, 1941. *3rd edition. Baltimore, The Johns Hopkins Press*, 1953, xii, 246 *pages. London : G. Cumberlege. Price :* $3.50 *or* 28*s.*

In the last 50–60 years quite a few books on archaeology and religion have been published. Some of them have thrown new light on the problems, others have hidden them. Some have been written by archaeologists who knew little about literary criticism and its treatment of the ancient texts. Some have been written by Biblical scholars who knew very little about archaeology. And some have been written by persons ignorant both of archaeology and of critical studies of the Bible. With this background the reader feels on safe ground when he gets in his hands a book on Archaeology and the Religion of Israel by W. F. Albright. The well known professor from the Johns Hopkins University in Baltimore combines in one person the experienced field archaeologist and the Old Testament scholar, well versed in critical and linguistic problems.

The first edition of this book was issued in 1942. A second edition with only minor changes came in 1946, and the new third edition is identical with the second, apart from eight pages of notes which, in Albright's own words, have ' been added to bring it up to date as far as practicable '.

Albright has divided his book into five sections, thus making it easy to survey and very lucid. In ch. 1 he treats Archaeology and the Ancient Near Eastern Mind. This survey of 35 pages is very interesting, written in the author's fluent, easy style. It does not go into discussions of details, but gives an inspiring view of some features from ancient history. In the next chapter he gives a brief review of the archaeological background of Old Testament religion. He describes the archaeological sources for the religion of the Ancient Near East and has some words on the use of archaeological data for the history of Ancient Near Eastern religion. He discusses separately the use of written documents and the use of unwritten material, and warns against misuse of both kinds of material. Premature combinations in the written documents are often made by scholars, and Albright gives some warning examples. He also recalls the story of the stables for chariot-horses, built by Solomon and his successors. Those in Taanach were supposed to be parts of a sanctuary, but later diggings in Megiddo showed convincingly that they were really stables.

When the book was originally issued in 1942, the third chapter, Archaeology and the Religion of the Canaanites, was its obvious climax. The reviewer thinks it still is. In a masterly way Albright has here gathered the new information given by the Ras Shamra texts and used it to give a masterly introduction to Canaanite religion, one of the best ever written. And what is more : it still retains its position, after all these many years, when so much has been written about the Ras Shamra texts. His combinations, which might once have seemed rather audacious in many details, have turned out to be right. The reviewer really enjoyed reading this chapter again.

Some scholars may still find his identifications of the Canaanite goddesses too bold, but the reviewer's own work in this field seems to him to confirm the conclusions of Albright.

In chapter IV Albright confronts archaeology and the religion of Early Israel. ' At present we cannot propose any safe reconstruction of the actual course of events during the period of the Israelite settlement in Palestine. What we already know from archaeological sources is, however, enough to disprove any radical reconstruction '. (pp. 95 ff.). He is most probably right in this. Albright knows the critical study of the Old Testament too well to go into a discussion of the Patriarchs and their place in history. In connection with the Patriarchs the German scholar Otto Eissfeldt has most recently found it necessary to point to ' the right and the limit of an archaeological view of the Old Testament ' (Orientalistische Literaturzeitung XLIX, March-April 1954, cols. 101–108).

Albright has not gone beyond the limit suggested by Eissfeldt, at least not in this question. The reviewer is not quite so convinced when it comes to Moses and the question of monotheism. But that lies beyond the scope of this article to discuss, in spite of the fact that Albright in one of his new notes (p. 230, note*66) adheres to the opinion he has expressed in his book *From the Stone Age to Christianity* (Baltimore 1940).

Albright stresses rightly the opinion held by R. de Vaux and J. Begrich that the Davidic state had its administrative organization from the Egyptians of the New Empire.

In his discussion of the question of the Levites he mentions (p. 110) that Zadok, the priest of David, was not a descendant of Eli, but that there is no reason to consider him as not an Aaronid. He rejects as ' subjective discussion ' (p. 205, note 46) the opinion of H. H. Rowley that Zadok was the Jebusite priest of the sanctuary of Nehushtan in the latest pre-Davidic Jerusalem. Rowley, however, is not alone on this line ; Bentzen and Mowinckel hold similar opinions. While the reviewer is a little sceptical about this hypothesis, he must admit that it is well in accordance with the religious policy of David. It cannot be rejected as easily as it is done by Albright.

The reviewer has some difficulty in accepting the alleged ascription to David of the short psalm in II Sam. XXIII (p. 126). That is a question which cannot be solved with the help of archaeology. It is a question of ' higher criticism ' and it is not at all easily solved. The little poem may well be very old (Albright is right there), but that does not necessarily mean that it is composed by David.

In his fifth and last chapter Albright discusses archaeology and the religion of Later Israel, with many interesting details. The discussion of the temple of Solomon takes a broad place. The last point to be discussed are the Elephantine Papyri, which give an interesting picture of Jewish religion in Egypt in the 5th century B.C.

Some of Albright's conclusions in this well written book may be cited : ' Since the Old Testament is historical in essence as well as in canonical purpose, archaeology becomes an indispensable aid to our understanding of it. Only through archaeological research can biblical history become a scientific discipline, since history can in general become scientific only by the consistent application of archaeological or other equally rigorous methodology. There can be no doubt that archaeology has confirmed the substantial historicity of Old Testament tradition ' (p. 176).

Albright's book is already a classic for Old Testament students. That says something about its quality.

ARVID S. KAPELRUD.
Oslo University.

A GUIDE TO THE CYPRUS MUSEUM. *By* P. DIKAIOS, Curator. *Nicosia ; the Cyprus Government Printing Office ; 2nd revised edition*, 1953. *5 shillings.*

A Guide such as this must of necessity reflect the fortunes of the museum it describes, just as those of the museum reflect the cultural level of those who feed—or starve—it. The Catalogue of 1899, prepared in 1894, described the collections at No. 7 Victoria St.,

and was automatically rendered obsolete as a Guide (though not of course otherwise) by the erection of a new building to house them. But as this task ' was carried out piecemeal during the following twenty years ' [after 1912] the compilation of a new Guide was not possible. But enough ; it is a sorry tale of apathy and indifference reflecting the mesolithic mentality of the modern hunters and collectors who in the last resort controlled the purse-strings. A new start was made in 1935 when the collections were completely reorganized—a long job well and truly performed, as the present reviewer can testify from first-hand knowledge. It is all the more regrettable, to use a mild term, that, for lack of galleries and show-cases, only ' a very small number of objects representing the Early Christian, Byzantine, Lusignan and later periods ' can even now be exhibited. A more enlightened policy might well do more to win the affections of the Cypriots than, let us say, lectures on English literature by wandering intellectuals.

The present Guide is the work of the distinguished scholar to whom Cyprus owes so much and who has himself added a new period to its prehistory.* It is as one would expect a scholarly production whose arrangement, conforming to that of the museum, is a sensible compromise between chronology and materials. The first part is chronological; then follow sections (rooms) devoted to the famous Ayia Irini and other sanctuaries, sculpture, scarabs, copper-mining—the word ' copper ' itself is derived from that of the island—tombs, jewellery, coins, terracottas and inscriptions. There is a useful map of the island, an index, and 36 plates. These last are smaller than the high quality of the objects deserve, but the whole is very good value indeed for five shillings.

Perhaps the most remarkable exhibit in the whole museum is the group of archaic terracotta figures from the Ayia Irini sanctuary, excavated in 1929 by the Swedish Cyprus Expedition. They cover the period 1200–500 B.C. and show that throughout this period the shrine was devoted to a fertility cult, at first mainly agrarian and then more general. Bulls are much in evidence throughout and minotaurs appear in the early 7th century. Some of the figures achieve a high degree of artistic excellence, and one could wish for a special series of illustrations of them in a separate monograph. The find is unique and deserves to be better known.

Space forbids further mention of the contents of this admirable Guide, but it would be wrong to conclude without a reference to the more than life-size bronze statue of Septimius Severus, found accidentally and in fragments, and skilfully restored in 1940 in the museum workshops. This appears on the Frontispiece. The Guide is produced by the Government Printing Office in Nicosia, and reflects great credit upon that establishment. O.G.S.C.

RÖMISCHE KERAMIK AUS DEM SCHUTTHÜGEL VON VINDONISSA. *By* Elisabeth Ettlinger *and* Christoph Simonett, *with an additional chapter by* L. Ohlenroth. *Veröffentlichungen der Gesellschaft Pro Vindonissa, Band III. Basel, Verlag Birkhäuser*, 1952. 128 *pp.*, 34 *plates*, 31 *figs. in text. Paperbound, Swiss fr.* 28.10.

The present volume maintains the standard set by previous publications on Vindonissa, the Roman stronghold in the North of Switzerland. The ceramics dealt with this time are found in the ' Schutthügel ', a huge rubbish-terrace, originally extending over 200 m. immediately North of the camp. Though until recently no attention was paid to the stratigraphy of these rubbish deposits, it has been evident since 1923 that

* See the review of his *Khirokhitia* in Antiquity, xxvii, 1953, 246–8.

the smaller, Eastern part represented the oldest débris, of *c.* A.D. 30–75, whereas the clearly separated Western part must have been deposited in the period of *c.* A.D. 75–100.

The typology, established in the first part of the volume, is highly satisfactory; classification, description and design are exact and perspicuous. The terra sigillata are reserved for a later volume, and the lamps and most of the terra sigillata imitations omitted in view of the works on these subjects by Loeschcke and Drack. Even so there remain eleven typological groups, comprising some 600 types and variants. In the discussion preceding each group, much attention has been paid to the interrelation of forms in the different groups, and to the phenomenon of native forms influencing Roman pottery from factories working for the camps. This knowledge of inter-relationship rightly eliminates the effect of artificial dividing-lines—the disadvantage of any rigid typology.

Some groups add considerably to our knowledge of Roman pottery. The pages on glazed ware list all sherds found so far in both Schutthügel and camp. Apart from a few Near-Eastern imports, fragments of some 100 provincial vases have been counted. Half of these represent a type hitherto scarcely noticed: a small beaker with funnel-shaped mouth and, partly polychromatic, barbotine decoration. This La Tène form rendered in Near-Eastern finish possibly originated from the Lezoux area.

As a part of the chapter on the coated ware, Ohlenroth ably discusses the small bowls with decorations in moulded relief, which show complete dependence on the South-Gaulish terra sigillata manufacture. Only 39 examples, all of which are listed, are known so far, and of these Vindonissa made the major contribution. The bowls all belong to the Claudian-Neronian period, and are readily superseded by small vases of terra sigillata.

The most typical contribution of Vindonissa to Roman pottery is a kind of red-painted or grained ware of thin texture and excellent workmanship. Although sherds of so called 'eggshell-ware' have been found in England and Holland, the isolated but frequent occurrence in Vindonissa is significant, and the attribution to the local kilns of the Legio XI is plausible. Most shapes and also the painting-technique are unknown to the local tradition, and the only complexes of such ceramics are found in the Wetterau; in Pannonia and in the factories of the Holdeurn, which supplied the Legio X at Nijmegen. This seemingly strange distribution fits in with history curiously. After the year 69, the Legio X left Pannonia and was settled at Nijmegen after some time, whereas the Legio XI came to Vindonissa from Dalmatia in the same year. They brought with them the fashion of red-painted pots from the Eastern provinces. The same is probably true of the Legio VIII arriving at Strassburg from Moesia in the year 70. In the year 83–84 parts among others of the Legio VIII and the Legio XI went to the Wetterau, and the fact that stamps of the Legio XI occur there completes this story—a fascinating one indeed.

Some indications are given as regards the occurrence of the types described in the Eastern and Western part of the Schutthügel, and these are of great help in establishing the correct chronology. But, rightly, Miss Ettlinger deplores that no exact figures could be given. A statistic treatment of sherds, based on the present typology and giving figures both of Eastern and Western part, could have been of the utmost importance.

This fault is but partly compensated in the second part by the statistic treatment given by Miss Ettlinger to the finds of 1944 and 1948. Both these years the excavations yielded finds of the younger period of débris only, and consequently no comparison with the older part is possible. Of special interest is the account of the 1948 dig, when all sherds were counted and an accurate stratigraphical registration took place. To observe how the share of terra sigillata in the total of collected sherds shrinks from 1/3 in 1944 to 1/8 in 1948 is quite instructive. The obtained insight in chronologic and quantitative

relations of the various ceramics involved is promising for the results of future investigations in the Schutthügel.*

The book, which is well-produced, will be a benefit for all students of Roman ceramics.

J. D. VAN DER WAALS.

MANUEL D'ARCHÉOLOGIE ÉGYPTIENNE. *By* J. VANDIER. Tome I^er^: *Les Époques de formation.* 9×5½. I. 'La Préhistoire'. *pp.* VIII+609. II. 'Les Trois Premières Dynasties'. *pp.* 610–1044. *Paris: Editions A. et J. Picard,* 1952.† *Price* 4300 *francs.*

The first volume of Monsieur Vandier's *Manuel d'Archéologie égyptienne* goes a considerable distance in filling a long-felt want of students of the prehistoric and archaic periods of the history of the Nile valley. Its value lies more in the careful marshalling of the relative material accumulated from excavations carried out during the last half century than in analysis and classification, which the author does not attempt in any detail.

In this perhaps he is wise, for with the active field research being carried out at Sakkara and Helouan our preconceived conclusions of the foundations of pharaonic Egypt have been shaken and many of them are now, to say the least, uncertain. For example, we can no longer be certain that the First Dynasty kings were buried at Abydos; we can no longer be certain that Narmer was the first king of the First Dynasty; and the chronological position and status of Queen Meryet-Nit is now open to question.

This lack of detailed analysis does not detract from the value of Monsieur Vandier's labours, and Egyptology has now been enriched for the first time with an easy work of reference; which one presumes was the author's main intention.

One criticism must be expressed. Too little attention has been paid to illustration, both in selection and reproduction. The photographs and figures in the text, of which there are over 600, are, to say the least, disappointing. For this the publisher must accept a large share of responsibility. In many cases, the reduction in size renders the picture almost useless, and an impression of carelessness and hurry is made apparent—where, for example, we note the wrong orientation of mastaba niches in figs. 457 and 458, and even find the plan of a tomb in fig. 416 upside down. In short, the book is worthy of much better illustration.

Even so, it yet remains a valuable compilation, and the author is to be congratulated on the satisfactory accomplishment of what must have been an arduous task.

W. B. EMERY.

THE ROMAN FRONTIER IN WALES. *By* V. E. NASH-WILLIAMS. *University of Wales Press,* 1954. *pp.* 161, 42 *plates,* 62 *figures.* 30*s.*

This volume is a notable addition to the existing field-surveys of the Roman military antiquities in Britain, and although it is primarily written for the general reader, who will find it easily the best available introduction to the subject, it will also be an invaluable reference-work for specialists. The main section of the book, which is prefaced by a brief historical summary of the Roman conquest of Wales, consists of a gazetteer of all the known military sites in the country, and is a model of its kind. The descriptions are lucidly written and amply documented, and the illustrations include not only ground

* An account of further investigations in 1950 has already appeared in the *Jahresbericht* 1950–51 of the Gesellschaft Pro Vindonissa; it is said to give valuable information as regards the Schutthügel chronology and I much regret not to have had the opportunity to consult it.

† The review copy reached us on 12 February, 1954.—Ed.

plans of excavated sites, most of which have been admirably redrawn by the author to render them easily intelligible, but also site plans based on the O.S. 6-inch maps. Subsequent chapters deal with the composition of the frontier garrison, the distribution, siting and planning of the constituent fortifications, and the historical deductions which can be drawn from the archaeological evidence ; while there are two useful appendices—one on the early documentary sources, and the other (contributed by Mr R. P. Wright) on the Roman milestones from Wales. The book is attractively produced, and, with one exception (Plate XIX), the forty-two pages of photographs are well chosen to illustrate the diversity of the archaeological material and are clearly reproduced.

Not the least of the merits of a comprehensive survey of this sort is that it indicates the directions in which future investigations may most usefully be made, and in Wales the Roman frontier organization still offers unlimited possibilities for further research whether by air-reconnaissance, field-work or excavation. Apart from the unlocated stations of *Varae* and *Bomium*, and perhaps an intermediate station between Pennal and Llanio, the fort-system appears to be reasonably complete, but surprisingly few examples of the other types of military installations which must have existed in considerable numbers in the Principality (e.g. temporary camps, fortlets, and signal-stations) have so far been identified, while a scientific examination of the Roman road-system is long overdue. The status of the sites at Tremadoc, Cwmdu, and Carno invites definition by the spade, and fresh investigation on systematic lines is urgently required at Forden Gaer, Castell Collen, Pennydarren and elsewhere. In Wales, as on the northern frontier of Roman Britain, the outstanding need at the moment is for one or two teams of amateur archaeologists, trained in modern excavation techniques and capable of taking equal part with their professional fellow-workers in a planned programme of trial-trenching. If anything can stimulate the recruitment of such teams, it is the publication of up-to-date and authoritative handbooks such as Dr Nash-Williams has here provided.

KENNETH STEER.

LANGUAGE AND HISTORY IN EARLY BRITAIN. *By* KENNETH JACKSON. $8\frac{3}{4} \times 5\frac{1}{2}$, *pp.* XXVI+752 *with* 2 *maps. Edinburgh : University Press.* 1953, 80*s.*

The author's preface describes this book as ' a chronological history of the sound-system of the British language and its descendants during the Roman period and the subsequent Dark Ages, until the influences of later Continental culture began to make themselves strongly felt, through English and French contacts, in many aspects of what had hitherto been a rather isolated Celtic civilization '. These phonetic changes have been discussed in a number of works, but for archaeologists and historians the important question is the dating of the individual sound-change. This is now, for the first time, systematically and comprehensively treated. The second part of the book, consisting of nearly 2/3 of the whole, is devoted to a rigorous analysis of the individual sound-changes, establishing, as closely as the evidence allows, the date at which each took place. Discussion of this part must be left to professional philologists, though students of the earlier Middle Ages will find much to interest them in the treatment of the individual personal and place names. Reference to this part—and indeed to the whole volume—is made easy by a full index. The first part contains six chapters of more general interest. They deal in turn with the Brittonic languages and the Breton emigrations, the written sources, Britons and Romans under the Empire, British loan-words in Irish, the early Christian inscriptions and Britons and Saxons from the 5th to 8th centuries. Not everyone will wish to read the whole of these chapters, but it is essential that the opening pages be studied in order to understand the meaning which the author attaches to certain terms,

such as Common Celtic and Primitive Welsh. Failure to grasp the meaning attached to these terms, which are both logical and consistently used, will only lead to a misunderstanding of the author's conclusions.

In his discussion of the British language (pp. 8–9) Professor Jackson is prepared to admit some degree of dialect differentiation. But, he continues, 'we have no direct contemporary evidence for it in Roman times nor does the nature of our sources allow any real inferences for the eastern parts of Britain in the succeeding period'. He rejects Förster's suggestion that some apparent differences in the Anglo-Saxon treatment of Brittonic sounds may depend on a distinction between Britons of A culture and those of B culture and argues that the evidence from place names in eastern Britain and the Midlands 'gives little warrant for inferring the existence of dialects and suspecting dialect forms'. It should however be emphasized that the linguistic evidence is drawn predominantly from areas strongly influenced in the immediately pre-Roman period by the Iron Age B cultures. The data from the Belgic areas—or for that matter from the areas mainly influenced by Iron Age A cultures—is probably quite insufficient to allow any detailed deductions in respect of the dialects spoken by these peoples. The historical development of the later Brittonic languages may be briefly summarized. West British, the ancestor of Welsh, and southwest British, the ancestor of Cornish and Breton, began to diverge as early as the 1st century A.D.; the process was accelerated in the 5th and 6th centuries and separation was complete by *c.* 600, when Common British comes to an end. Old Breton is dominated by the speech of the second wave of emigrants, which left southwest Britain in the last quarter of the 6th century (Battle of Dyrham: 577), and diverges from Old Cornish after the Saxon conquest of Cornwall in the 9th century.

The account of the written sources is admirably clear and the full references and footnotes provide an excellent guide to the scattered bibliography of this subject. Linguistic forms, as the author clearly demonstrates, indicate that some late documents (e.g. the Rhuis Life of St. Gildas of the 11th century) are based on older written sources, a result of importance in other fields of study. The discussion of British Latin (i.e. the variety of Vulgar Latin spoken in Britain) and its relation on the one hand to Continental Vulgar Latin and on the other to Old Welsh, Cornish and Breton reveals factors that must be taken into account by students both of Roman Britain and of the sub-Roman Age.

Professor Jackson's treatment of the early Christian inscriptions brings out the complexity of the problems involved in this group of monuments. Few are datable on external evidence and the evolutionary sequences based on epigraphical and linguistic criteria do not always correspond in detail. The Cadfan stone at Llangadwaladr, Anglesey is the crux. Typologically this is the latest of the series; it was erected to commemorate a King of Gwynedd, who died *c.* 625. I originally assumed, rather hastily, that it was also chronologically the latest of these inscriptions. This involved the tacit assumption that new styles of lettering were adopted simultaneously throughout the British area from Southern Scotland to Cornwall. Such a thesis could not be sustained; epigraphically there is no reason for refusing to admit the possibility that a number of the later inscriptions could belong to the mid or late 7th century. Such a chronology would far better fit the linguistic evidence. Dr Nash-Williams' dating of three other stones is also challenged. Historically the identification of the Paulinus on the stone from Cynwyl Gaeo with the master of St. David (*c.* 550) has little to support it; on epigraphic grounds I should prefer to place it in the late 5th century (*Arch. Camb.*, C, 304). The dating of the Llantrisant (Trescawen) stone to mid 6th century again depends on the identity of the Paulinus mentioned on it with the master of St. David; there is no reason

to assume this. This stone at Llannor is a different case. While I should be prepared with some hesitation to accept the identification with St. Gwynhoedl, I cannot place any confidence in the date suggested for this saint; again on epigraphic grounds I agree with a 5th century date. We are therefore left with four Welsh stones in the early series which can be dated on external grounds. None of the stones in the Scottish Lowlands can be dated on external evidence. Attention may be drawn at this point to the stone at Menabilly, Fowey, not discussed by the author, of which the mid 6th century date is, in my opinion, reasonably well established (*Journ. R. Inst. Cornwall*, n.s. 1, appendix, p. 117).

The final chapter marshalls the Celtic linguistic evidence bearing on the Anglo-Saxon invasions of England. It discusses the material in detail and links it with the progress of the conquest as indicated in other sources. 'The whole picture is . . . totally incompatible with the old theory of complete extermination of the British inhabitants'. In particular Professor Jackson calls attention to the occurrence on the coast of Kent, 'a district with extremely few British place names', of two survivals which are shown to indicate the existence of bilingual Britons.

This review, already too long, has inevitably tended to refer to points which the writer considers of particular importance or in which he is interested. It does not give a full indication of the contents of this important book. Almost every page records some fact illuminating the course of events in Britain in the first millennium of the Christian era. It is not easy to assimilate all these facts, but the effort must be made if students of this period are to use to the full one of the most important sources of information.

C.A.R.R.

ROMAN EXETER. *By* Aileen Fox. *pp.* xvi+104 with 19 *figs. and* 25 *plates. Manchester: University Press.* 1952. 30*s.*

The 8th Monograph of the History of Exeter Research Group of the University College of the Southwest records the excavations carried out in 1945–7 in the bomb-damaged area of the Roman city. There is also a complete schedule of structural remains recorded before 1942. (For those not knowing the site it would have been convenient to add to the map illustrating the earlier list the sites of the excavations). The excavations were meticulously carried out in conditions of some difficulty; the work is well recorded, but some of the illustrations are poor. The most important results are the discovery of wooden buildings of *c.* 50–80 below the Forum—an excellent restored plan and reconstruction are given—the location of the Forum, the dating of the city bank to Hadrian or Antoninus and of the wall, provisionally to the Severan age. C.A.R.R.

FACT, FAKE OR FABLE? *By* Rupert Furneaux. *Cassell*, 1954. 15*s.*

The sub-title describes the contents as 'controversies and arguments about buried treasure, questions of identity, fraudulent inscriptions, forged documents and strange ruins'. The subjects include 'Drake's Plate of Brass', the Casket Letters, Golgotha, the Donation of Constantine, the 'Protocols of Zion', the Kensington 'Rune Stone', the Newport Tower (Rhode Island) and the Zinoviev Letter. No new facts are produced and no claim is made for their discovery or for new solutions. The author rashly inclines to accept as genuine those examples which most concern us here, namely, Drake's Plate, the Kensington Stone and the Newport Tower, although their authenticity is most unlikely. He quotes Moltke's Antiquity article in his bibliography, but does not give any account of its substance, and his whole treatment of this stone is far too lenient. Some famous forgeries are omitted, of set purpose it would seem from the foreword. Notable omissions are Glozel and an index. O.G.S.C.

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Edited by

O. G. S. Crawford, C.B.E., Litt.D., F.B.A.

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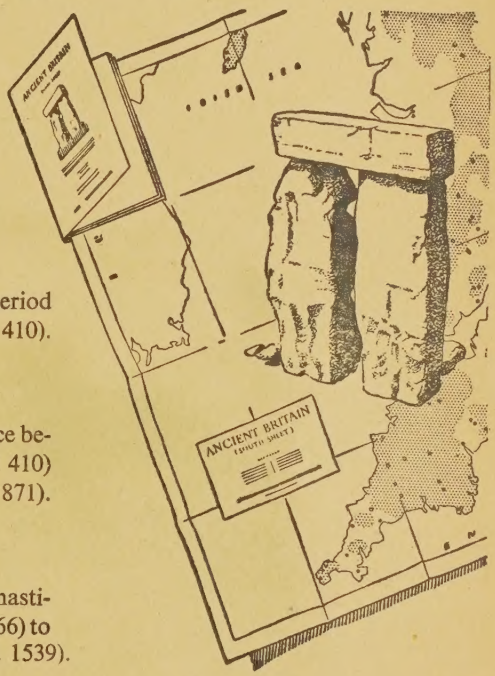
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